

<213> Homo sapiens

<400> 4492

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 Gln Lys Asp Ile Lys Asp Leu Gly Gly Arg Val Glu Glu Phe Leu Ser
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 Lys Asp Ile Ser Tyr Leu Ile Ser Asn Lys Lys Glu Ala Lys Phe Ala
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 Gln Thr Leu Gly Arg Ile Ser Pro Val Pro Ser Pro Glu Ser Ala Tyr
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 Thr Ala Glu Thr Thr Ser Pro His Pro Ser His Asp Gly Ser Ser Phe
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<210> 4493

<211> 1829

<212> DNA

<213> Homo sapiens

<400> 4493

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<210> 4494

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<212> PRT

<213> Homo sapiens

<400> 4494

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Leu Val His Leu Ala Leu Arg Phe Lys Cys Asn Gln Asn Cys Pro Gln
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Gly Pro Ala Ile Lys Ala Leu Ser Leu Ser Thr Phe Trp Tyr Leu Val
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<210> 4495

<211> 3623

<212> DNA

<213> Homo sapiens

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<210> 4496

<211> 560

<212> PRT

<213> Homo sapiens

<400> 4496

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| Leu | Asp | Pro | Asp | Trp | Thr | Pro | Asp | Gln | Tyr | Asp | Tyr | Ser | Tyr | Glu | Asp |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Tyr | Asn | Gln | Glu | Glu | Asn | Thr | Ser | Ser | Thr | Leu | Thr | His | Ala | Glu | Asn |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Pro | Asp | Trp | Tyr | Tyr | Thr | Glu | Asp | Gln | Ala | Asp | Pro | Cys | Gln | Pro | Asn |
| | 65 | | | | 70 | | | | 75 | | | | 80 | | |
| Pro | Cys | Glu | His | Gly | Gly | Asp | Cys | Leu | Val | His | Gly | Ser | Thr | Phe | Thr |

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 Gln Ser Pro Pro Tyr Tyr Arg Cys Val Cys Lys His Pro Tyr Thr Gly
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 Cys Phe Ile Lys Val Thr Asn Asp Lys Val Lys Trp Glu Tyr Cys Asp
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| | | | | | |
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| Pro | Arg | Glu | Glu | Arg | Pro |
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| Ser | Phe | Ala | Gln | Asn | Gly |
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| Arg | Glu | Leu | Arg | Ser | Cys |
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<211> 562

<212> DNA

<213> Homo sapiens

<400> 4499

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<210> 4500

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<213> Homo sapiens

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| Lys | Val | Thr | Pro | Ala | His | Ser | Pro | Ala | Asp | Ala | Glu | Met | Gly | Ala | Arg |
| | | | 20 | | | | 25 | | | | | 30 | | | |
| His | Gly | Leu | Ser | Pro | Leu | Asn | Val | Ile | Ala | Glu | Asp | Gly | Thr | Met | Thr |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ser | Leu | Cys | Gly | Asp | Trp | Leu | Gln | Gly | Leu | His | Arg | Phe | Val | Ala | Arg |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Glu | Lys | Ile | Met | Ser | Val | Leu | Ser | Glu | Arg | Gly | Leu | Phe | Arg | Gly | Leu |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
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<213> Homo sapiens

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<210> 4502

<211> 267

<212> PRT

<213> Homo sapiens

<400> 4502

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Gly | Cys | Phe | Pro | Val | Ser | Gly | Leu | Arg | Cys | Leu | Ser | Arg | Asp |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Arg | Met | Ala | Ala | Gln | Gly | Ala | Pro | Arg | Phe | Leu | Leu | Thr | Phe | Asp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Asp | Glu | Thr | Ile | Val | Asp | Glu | Asn | Ser | Asp | Asp | Ser | Ile | Val | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Ala | Pro | Gly | Gln | Arg | Leu | Pro | Glu | Ser | Leu | Arg | Ala | Thr | Tyr | Arg |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Glu | Gly | Phe | Tyr | Asn | Glu | Tyr | Met | Gln | Arg | Val | Phe | Lys | Tyr | Leu | Gly |

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Pro Leu Ser Pro Gly Met Ser Asp Leu Leu Gln Phe Val Ala Lys Gln
      100          105          110
Gly Ala Cys Phe Glu Val Ile Leu Ile Ser Asp Ala Asn Thr Phe Gly
      115          120          125
Val Glu Ser Ser Leu Arg Ala Ala Gly His His Ser Leu Phe Arg Arg
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Ile Leu Ser Asn Pro Ser Gly Pro Asp Ala Arg Gly Leu Leu Ala Leu
      145          150          155          160
Arg Pro Phe His Thr His Ser Cys Ala Arg Cys Pro Ala Asn Met Cys
      165          170          175
Lys His Lys Val Leu Ser Asp Tyr Leu Arg Glu Arg Ala His Asp Gly
      180          185          190
Val His Phe Glu Arg Leu Phe Tyr Val Gly Asp Gly Ala Asn Asp Phe
      195          200          205
Cys Pro Met Gly Leu Leu Ala Gly Gly Asp Val Ala Phe Pro Arg Arg
      210          215          220
Gly Tyr Pro Met His Arg Leu Ile Gln Glu Ala Gln Lys Ala Glu Pro
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Ser Ser Phe Arg Ala Ser Val Val Pro Trp Glu Thr Ala Ala Asp Val
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<210> 4503

<211> 1983

<212> DNA

<213> Homo sapiens

<400> 4503

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 1983

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<211> 250

<212> PRT

<213> Homo sapiens

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      35      40      45
Lys Lys Ile Ile Glu Thr Lys Met Leu Met Gly Glu Val Met Arg Glu
      50      55      60
Ala Ala Phe Ser Leu Ala Glu Ala Lys Phe Thr Ala Gly Asp Phe Ser
      65      70      75      80
Thr Thr Val Ile Gln Asn Val Asn Lys Ala Gln Val Lys Ile Arg Ala
      85      90      95
Lys Lys Asp Asn Val Ala Gly Val Thr Leu Pro Val Phe Glu His Tyr
      100      105      110
His Glu Gly Thr Asp Ser Tyr Glu Leu Thr Gly Leu Ala Arg Gly Gly
      115      120      125
Glu Gln Leu Ala Lys Leu Lys Arg Asn Tyr Ala Lys Ala Val Glu Leu
      130      135      140
Leu Val Glu Leu Ala Ser Leu Gln Thr Ser Phe Val Thr Leu Asp Glu
      145      150      155      160
Ala Ile Lys Ile Thr Asn Arg Arg Val Asn Ala Ile Glu His Gly Glu
      165      170      175
Tyr Val Ile Ile Pro Arg Ile Glu Arg Thr Leu Ala Tyr Ile Ile Thr
      180      185      190
Glu Leu Asp Glu Arg Glu Arg Glu Glu Phe Tyr Arg Leu Lys Lys Ile
      195      200      205
Gln Glu Lys Lys Lys Ile Leu Lys Glu Lys Ser Glu Lys Asp Leu Glu
      210      215      220
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<210> 4505

<211> 379

<212> DNA

<213> Homo sapiens

<400> 4505

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<210> 4506

<211> 121

<212> PRT

<213> Homo sapiens

<400> 4506

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Arg Arg Gln Trp Trp Leu Trp Leu Ser Ser Leu Ser Asn Gln Ile His
 35             40             45
Pro Thr Pro Ser Ala Gln Gly Gln Ala Ala Leu Arg Gln Thr Cys Pro
 50             55             60
His Leu Arg Glu Ser Gly Pro Leu Ser Val Arg His Val Ala Leu Leu
 65             70             75             80
Ala Leu Glu Thr Ala Ser His Pro Ser Gly Pro His Thr Asn Gln Ala
 85             90             95
Pro Ser Pro Ala Thr Ser Pro Lys Cys Pro Ser Glu Pro Ala Thr Pro
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Ser Ser Thr Asp Ser Leu Ile Lys Ile
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<210> 4507

<211> 3664

<212> DNA

<213> Homo sapiens

<400> 4507

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<211> 172

<212> PRT

<213> Homo sapiens

<400> 4508

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| 1 | | | | | 5 | | | | 10 | | | | | 15 | |
| Thr | Asn | Glu | Gln | Ser | Leu | Glu | Gln | Val | Phe | Ser | Lys | Tyr | Gly | Gln | Ile |

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| | 20 | | 25 | | 30 |
| Ser | Glu | Val | Val | Val | Val |
| | 35 | | 40 | | 45 |
| Phe | Gly | Phe | Val | Thr | Phe |
| | 50 | | 55 | | 60 |
| Met | Ala | Met | Asn | Gly | Lys |
| | 65 | | 70 | | 75 |
| Gln | Ala | Gly | Lys | Ser | Ser |
| | 85 | | 90 | | 95 |
| Ser | Ala | Gly | Gly | Arg | Gly |
| | 100 | | 105 | | 110 |
| Gly | Phe | Ser | Arg | Gly | Gly |
| | 115 | | 120 | | 125 |
| Glu | Ser | Arg | Ser | Gly | Gly |
| | 130 | | 135 | | 140 |
| Arg | Ser | Gln | Ser | Gly | Gly |
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<210> 4509

<211> 11680

<212> DNA

<213> Homo sapiens

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| Gln | Tyr | Arg | Asp | Glu | Glu | Asp | Glu | Asp | Glu | Ser | Tyr | Gln | Ser | Ala | Leu |
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<210> 4516

<211> 901

<212> PRT

<213> Homo sapiens

<400> 4516

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Pro Pro Gly Val Ala Ala Leu Leu Ala Phe Pro Glu Ala Arg Pro Glu
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Leu Leu Gln Leu His Phe Leu Ala Ala Thr Glu Thr Pro Val Leu
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Phe His Leu Gln Leu His Trp Ala Ser Pro Leu Glu Thr Leu Leu Asp
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Ala Leu Cys Arg Thr Gln Asp Pro Gly Gly Leu Val Ala Leu Trp Thr
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Ser Arg Ala Gly Arg Pro Pro Gln Leu Val Leu Asp Leu Ser Arg Arg
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Asp Thr Gly Asp Ala Gly Leu Arg Ala Arg Leu Ala Pro Met Ala Ala
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Pro Val Gly Gly Glu Ala Pro Val Pro Ala Ala Val Leu Leu Gly Cys
225 230 235 240
Asp Ile Ala Arg Ala Arg Arg Val Leu Glu Ala Val Pro Pro Gly Pro
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His Trp Leu Leu Gly Thr Pro Leu Pro Pro Lys Ala Leu Pro Thr Ala
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Gly Leu Pro Pro Gly Leu Leu Ala Leu Gly Glu Val Ala Arg Pro Pro
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Leu Glu Ala Ala Ile His Asp Ile Val Gln Leu Val Ala Arg Ala Leu

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| | | | | | |
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| Val Asn Cys Gly Asp Leu Gln Pro Ala Gly Pro Glu Ser Pro Gly Arg | | | | | |
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| Phe Leu Ala Arg Phe Leu Ala Asn Thr Ser Phe Gln Gly Arg Thr Gly | | | | | |
| | 340 | | 345 | | 350 |
| Pro Val Trp Val Thr Gly Ser Ser Gln Val His Met Ser Arg His Phe | | | | | |
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| Lys Val Trp Ser Leu Arg Arg Asp Pro Arg Gly Ala Pro Ala Trp Ala | | | | | |
| | 370 | | 375 | | 380 |
| Thr Val Gly Ser Trp Arg Tyr Gly Gln Leu Asp Leu Glu Pro Gly Gly | | | | | |
| | 385 | | 390 | | 395 |
| Ala Ser Ala Trp Pro Pro Pro Gln Gly Ala Gln Val Arg Pro Lys | | | | | |
| | 405 | | 410 | | 415 |
| Leu Arg Val Val Thr Leu Leu Glu His Pro Phe Val Phe Ala Arg Asp | | | | | |
| | 420 | | 425 | | 430 |
| Pro Asp Glu Asp Gly Gln Cys Pro Ala Gly Gln Leu Cys Leu Asp Pro | | | | | |
| | 435 | | 440 | | 445 |
| Gly Thr Asn Asp Ser Ala Thr Leu Asp Ala Leu Phe Ala Ala Leu Ala | | | | | |
| | 450 | | 455 | | 460 |
| Asn Gly Ser Ala Pro Arg Ala Leu Arg Lys Cys Cys Tyr Gly Tyr Cys | | | | | |
| | 465 | | 470 | | 475 |
| Ile Asp Leu Leu Glu Arg Leu Ala Glu Asp Thr Pro Phe Asp Phe Glu | | | | | |
| | 485 | | 490 | | 495 |
| Leu Tyr Leu Val Gly Asp Gly Lys Tyr Gly Ala Leu Arg Asp Gly Arg | | | | | |
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| Trp Thr Gly Leu Val Gly Asp Leu Leu Ala Gly Arg Ala His Met Ala | | | | | |
| | 515 | | 520 | | 525 |
| Val Thr Ser Phe Ser Ile Asn Ser Ala Arg Ser Gln Val Val Asp Phe | | | | | |
| | 530 | | 535 | | 540 |
| Thr Ser Pro Phe Phe Ser Thr Ser Leu Gly Ile Met Val Arg Ala Arg | | | | | |
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| Asp Thr Ala Ser Pro Ile Gly Ala Phe Met Trp Pro Leu His Trp Ser | | | | | |
| | 565 | | 570 | | 575 |
| Thr Trp Leu Gly Val Phe Ala Ala Leu His Leu Thr Ala Leu Phe Leu | | | | | |
| | 580 | | 585 | | 590 |
| Thr Val Tyr Glu Trp Arg Ser Pro Tyr Gly Leu Thr Pro Arg Gly Arg | | | | | |
| | 595 | | 600 | | 605 |
| Asn Arg Ser Thr Val Phe Ser Tyr Ser Ser Ala Leu Asn Leu Cys Tyr | | | | | |
| | 610 | | 615 | | 620 |
| Ala Ile Leu Phe Arg Thr Val Ser Ser Lys Thr Pro Lys Cys Pro | | | | | |
| | 625 | | 630 | | 635 |
| Thr Gly Arg Leu Leu Met Asn Leu Trp Ala Ile Phe Cys Leu Leu Val | | | | | |
| | 645 | | 650 | | 655 |
| Leu Ser Ser Tyr Thr Ala Asn Leu Ala Val Met Val Gly Asp Lys | | | | | |
| | 660 | | 665 | | 670 |
| Thr Phe Glu Glu Leu Ser Gly Ile His Asp Pro Lys Leu His His Pro | | | | | |
| | 675 | | 680 | | 685 |
| Ala Gln Gly Phe Arg Phe Gly Thr Val Trp Glu Ser Ser Ala Glu Ala | | | | | |
| | 690 | | 695 | | 700 |
| Tyr Ile Lys Lys Ser Phe Pro Asp Met His Ala His Met Arg Arg His | | | | | |
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| Ser Ala Pro Thr Thr Pro Arg Gly Val Ala Met Leu Thr Ser Asp Pro | | | | | |
| | | | | | 720 |

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Pro Lys Leu Asn Ala Phe Ile Met Asp Lys Ser Leu Leu Asp Tyr Glu
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Val Ser Ile Asp Ala Asp Cys Lys Leu Thr Val Gly Lys Pro Phe
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Ala Ile Glu Gly Tyr Gly Ile Gly Leu Pro Gln Asn Ser Pro Leu Thr
              770              775              780
Ser Asn Leu Ser Glu Phe Ile Ser Arg Tyr Lys Ser Ser Gly Phe Ile
              785              790              795
Asp Leu Leu His Asp Lys Trp Tyr Lys Met Val Pro Cys Gly Lys Arg
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Val Phe Ala Val Thr Glu Thr Leu Gln Met Ser Ile Tyr His Phe Ala
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Gly Leu Phe Val Leu Leu Cys Leu Gly Leu Gly Ser Ala Leu Leu Ser
              835              840              845
Ser Leu Gly Glu His Ala Phe Phe Arg Leu Ala Leu Pro Arg Ile Arg
              850              855              860
Lys Gly Ser Arg Leu Gln Tyr Trp Leu His Thr Ser Gln Lys Ile His
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<210> 4517

<211> 2275

<212> DNA

<213> Homo sapiens

<400> 4517

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<210> 4518

<211> 650
 <212> PRT
 <213> Homo sapiens

<400> 4518

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Val Ser Ser Leu Leu Leu Gln Glu Glu Pro Leu Ala Gly Gly Lys
          35           40           45
Pro Gly Ala Asp Gly Gly Ser Leu Glu Ala Val Arg Leu Gly Pro Ser
          50           55           60
Ser Gly Leu Leu Val Asp Trp Leu Glu Met Leu Asp Pro Glu Val Val
65          70           75           80
Ser Ser Cys Pro Asp Leu Gln Leu Arg Leu Leu Phe Ser Arg Arg Lys
          85           90           95
Gly Lys Gly Gln Ala Gln Val Pro Ser Phe Arg Pro Tyr Leu Leu Thr
          100          105          110
Leu Phe Thr His Gln Ser Ser Trp Pro Thr Leu His Gln Cys Ile Arg
          115          120          125
Val Leu Leu Gly Lys Ser Arg Glu Gln Arg Phe Asp Pro Ser Ala Ser
          130          135          140
Leu Asp Phe Leu Trp Ala Cys Ile His Val Pro Arg Ile Trp Gln Gly
145          150          155          160
Arg Asp Gln Arg Thr Pro Gln Lys Arg Arg Glu Glu Leu Val Leu Arg
          165          170          175
Val Gln Gly Pro Glu Leu Ile Ser Leu Val Glu Leu Ile Leu Ala Glu
          180          185          190
Ala Glu Thr Arg Ser Gln Asp Gly Asp Thr Ala Ala Cys Ser Leu Ile
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Gln Ala Arg Leu Pro Leu Leu Ser Cys Cys Cys Gly Asp Asp Glu
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225          230          235          240
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Tyr Leu Gln Arg Pro Glu Leu Arg Val Pro Val Pro Glu Val Leu Leu
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His Ser Glu Gly Ala Ala Ser Ser Val Cys Lys Leu Asp Gly Leu
          275          280          285
Ile His Arg Phe Ile Thr Leu Leu Ala Asp Thr Ser Asp Ser Arg Ala
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Leu Glu Asn Arg Gly Ala Asp Ala Ser Met Ala Cys Arg Lys Leu Ala
305          310          315          320
Val Ala His Pro Leu Leu Leu Arg His Leu Pro Met Ile Ala Ala
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Leu Leu His Gly Arg Thr His Leu Asn Phe Gln Glu Phe Arg Gln Gln
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Asn His Leu Ser Cys Phe Leu His Val Leu Gly Leu Glu Leu Leu
          355          360          365
Gln Pro His Val Phe Arg Ser Glu His Gln Gly Ala Leu Trp Asp Cys
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Leu Leu Ser Phe Ile Arg Leu Leu Leu Asn Tyr Arg Lys Ser Ser Arg

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              420              425              430
Asp Pro Leu His Asp Leu Ser Phe Asp Asn Ser Asp Leu Val Met Leu
              435              440              445
Lys Ser Leu Leu Ala Gly Leu Ser Leu Pro Ser Arg Asp Asp Arg Thr
              450              455              460
Asp Arg Gly Leu Asp Glu Glu Gly Glu Glu Glu Ser Ser Ala Gly Ser
465              470              475              480
Leu Pro Leu Val Ser Val Ser Leu Phe Thr Pro Leu Thr Ala Ala Glu
              485              490              495
Met Ala Pro Tyr Met Lys Arg Leu Ser Arg Gly Gln Thr Val Glu Gly
              500              505              510
Glu Ser Gly Pro Ala Ser Pro Thr Pro Asp Leu Leu Glu Val Leu Ser
              515              520              525
Asp Ile Asp Glu Met Ser Arg Arg Arg Pro Glu Ile Leu Ser Phe Phe
530              535              540
Ser Thr Asn Leu Gln Arg Leu Met Ser Ser Ala Glu Glu Cys Cys Arg
545              550              555              560
Asn Leu Ala Phe Ser Leu Ala Leu Arg Ser Met Gln Asn Ser Pro Ser
              565              570              575
Ile Ala Ala Ala Phe Leu Pro Thr Phe Met Tyr Cys Leu Gly Ser Gln
              580              585              590
Asp Phe Glu Val Val Gln Thr Ala Leu Arg Asn Leu Pro Glu Tyr Ala
              595              600              605
Leu Leu Cys Gln Glu His Ala Ala Val Leu Leu His Arg Ala Phe Leu
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<210> 4519

<211> 2326

<212> DNA

<213> Homo sapiens

<400> 4519

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<210> 4520

<211> 617

<212> PRT

<213> Homo sapiens

<400> 4520

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| Thr | Arg | Ala | Val | Trp | Cys | Ala | His | Val | Glu | Gly | Trp | Thr | Thr | Leu | His |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Thr | Asn | Cys | Lys | Gln | Ala | Glu | Arg | Pro | Asn | Asn | Gln | Gln | Asn | Cys | Phe |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Lys | Val | Cys | Asp | Trp | His | Lys | Glu | Leu | Tyr | Asp | Trp | Arg | Leu | Gly | Pro |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Trp | Asn | Gln | Cys | Gln | Pro | Val | Ile | Ser | Lys | Ser | Leu | Glu | Lys | Pro | Leu |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Glu | Cys | Ile | Lys | Gly | Glu | Glu | Gly | Ile | Gln | Val | Arg | Glu | Ile | Ala | Cys |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Ile | Gln | Lys | Asp | Lys | Asp | Ile | Pro | Ala | Glu | Asp | Ile | Ile | Cys | Glu | Tyr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Phe | Glu | Pro | Lys | Pro | Leu | Leu | Glu | Gln | Ala | Cys | Leu | Ile | Pro | Cys | Gln |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Gln | Asp | Cys | Ile | Val | Ser | Glu | Phe | Ser | Ala | Trp | Ser | Glu | Cys | Ser | Lys |
| | 130 | | | | | 135 | | | | 140 | | | | | |
| Thr | Cys | Gly | Ser | Gly | Leu | Gln | His | Arg | Thr | Arg | His | Val | Val | Ala | Pro |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Pro | Gln | Phe | Gly | Gly | Ser | Gly | Cys | Pro | Asn | Leu | Thr | Glu | Phe | Gln | Val |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Cys | Gln | Ser | Ser | Pro | Cys | Glu | Ala | Glu | Glu | Leu | Arg | Tyr | Ser | Leu | His |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Val | Gly | Pro | Trp | Ser | Thr | Cys | Ser | Met | Pro | His | Ser | Arg | Gln | Val | Arg |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Gln | Ala | Arg | Arg | Arg | Gly | Lys | Asn | Lys | Glu | Arg | Glu | Lys | Asp | Arg | Ser |
| | 210 | | | | | 215 | | | | | | 220 | | | |
| Lys | Gly | Val | Lys | Asp | Pro | Glu | Ala | Arg | Glu | Leu | Ile | Lys | Lys | Lys | Arg |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Asn | Arg | Asn | Arg | Gln | Asn | Arg | Gln | Glu | Asn | Lys | Tyr | Trp | Asp | Ile | Gln |
| | | | 245 | | | | | 250 | | | | | | 255 | |
| Ile | Gly | Tyr | Gln | Thr | Arg | Glu | Val | Met | Cys | Ile | Asn | Lys | Thr | Gly | Lys |
| | 260 | | | | | | 265 | | | | | 270 | | | |
| Ala | Ala | Asp | Leu | Ser | Phe | Cys | Gln | Gln | Glu | Lys | Leu | Pro | Met | Thr | Phe |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Gln | Ser | Cys | Val | Ile | Thr | Lys | Glu | Cys | Gln | Val | Ser | Glu | Trp | Ser | Glu |

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      290              295              300
Trp Ser Pro Cys Ser Lys Thr Cys His Asp Met Val Ser Pro Ala Gly
305              310              315
Thr Arg Val Arg Thr Arg Thr Ile Arg Gln Phe Pro Ile Gly Ser Glu
              325              330              335
Lys Glu Cys Pro Glu Phe Glu Glu Lys Glu Pro Cys Leu Ser Gln Gly
              340              345              350
Asp Gly Val Val Pro Cys Ala Thr Tyr Gly Trp Arg Thr Thr Glu Trp
              355              360              365
Thr Glu Cys Arg Val Asp Pro Leu Leu Ser Gln Gln Asp Lys Arg Arg
              370              375              380
Gly Asn Gln Thr Ala Leu Cys Gly Gly Gly Ile Gln Thr Arg Glu Val
385              390              395              400
Tyr Cys Val Gln Ala Asn Glu Asn Leu Leu Ser Gln Leu Ser Thr His
              405              410              415
Lys Asn Lys Glu Ala Ser Lys Pro Met Asp Leu Lys Leu Cys Thr Gly
              420              425              430
Pro Ile Pro Asn Thr Thr Gln Leu Cys His Ile Pro Cys Pro Thr Glu
              435              440              445
Cys Glu Val Ser Pro Trp Ser Ala Trp Gly Pro Cys Thr Tyr Glu Asn
              450              455              460
Cys Asn Asp Pro Gln Gly Lys Lys Gly Phe Lys Leu Arg Lys Arg Arg
465              470              475              480
Ile Thr Asn Glu Pro Thr Gly Gly Ser Gly Leu Thr Gly Asn Cys Pro
              485              490              495
His Leu Leu Glu Ala Ile Pro Cys Glu Glu Pro Ala Cys Tyr Asp Trp
              500              505              510
Lys Ala Val Arg Leu Gly Asp Cys Glu Pro Asp Asn Gly Lys Glu Cys
              515              520              525
Gly Pro Gly Thr Gln Val Gln Glu Val Val Cys Ile Asn Ser Asp Gly
              530              535              540
Glu Glu Val Asp Arg Gln Leu Cys Arg Asp Ala Ile Phe Pro Ile Pro
545              550              555              560
Val Ala Cys Asp Ala Pro Cys Pro Lys Asp Cys Val Leu Ser Thr Trp
              565              570              575
Ser Thr Trp Ser Ser Cys Ser His Thr Cys Ser Gly Lys Thr Thr Glu
              580              585              590
Gly Lys Gln Ile Arg Ala Arg Ser Ile Leu Ala Tyr Ala Gly Glu Glu
              595              600              605
Gly Glu Ser Pro Ala Ser Asp Ala Ile
610              615

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<210> 4521

<211> 1071

<212> DNA

<213> Homo sapiens

<400> 4521

nagattccta taaaggatca tgaattagat gggtagtaga tttatccaca atgataaaga

60

tcagaagaaa tgaaataatg ccttcaaacg actgaggaaa aataattatt aacctataat

120

ttataccaat ataaacaatt actcaggaaa aaaagaaaat aaaaacttgc aaggggctaaa

180

ataacttgct taccacaaa gatgcttgct ctaagaactg tgaagggatt caagaggaaa
 240
 agtacaccca gagagggtc atacatgtcc tctccccctc ctctccacc accaggacac
 300
 acagaaaactg cctcctcttt tcagccctct cctctctcag ctgactttga gctacaaaata
 360
 tcctctctct acttgagag ccccatattca ttacaggaat ttgctttgag ttttattatc
 420
 attttagtct atgtctttaga ttgggctgct ataacaagggt gccataggct gagcggctta
 480
 aacaacaaac actcatatcc cacagttaca gaggtcgaga agcctgggggt caaggtacca
 540
 gcatggctctg attctgttct ggaggctggg aaatccaaga tggaagcact ggtagggttg
 600
 gtgtctggga gggcttctct ctgcttccaa gatgggtgct tgtcgtcgca tcttccagag
 660
 ggaagggaatg ctgtgtcctt gcagcacaga agaaacacat ctgaaaagaa atcaagcaga
 720
 aaagtgtgaa ataaagagat ggaatatata tatgaaaact actacatata ggaagggatg
 780
 tagcaagac acagagagaa tataatttaa ggcaaaaagc ttcaatagga tttcaagca
 840
 aaccttgcat actaaaaaaa ggaacacaaa aataaaccaa aagaaccga aaacctgaa
 900
 ctgtcaggag aattttccaa agccgtaatt ataatgagag tgtttttaag tctataagaa
 960
 attaatatat caaacaata aagattaata agaatttgga atttgtatga aatggcaag
 1020
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 1071

<210> 4522

<211> 189

<212> PRT

<213> Homo sapiens

<400> 4522

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Ala | Leu | Arg | Thr | Val | Lys | Gly | Phe | Lys | Arg | Lys | Ser | Thr | Pro |
| 1 | | | 5 | | | | | | 10 | | | | | 15 | |
| Arg | Glu | Gly | Ser | Tyr | Met | Ser | Ser | Pro | Pro | Pro | Pro | Pro | Pro | Pro | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| His | Thr | Glu | Thr | Ala | Ser | Ser | Phe | Gln | Pro | Ser | Pro | Phe | Ser | Ala | Asp |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Phe | Glu | Leu | Gln | Ile | Ser | Leu | Leu | Tyr | Leu | Glu | Ser | Pro | Ile | Ser | Leu |
| | | | 50 | | | 55 | | | | 60 | | | | | |
| Gln | Glu | Phe | Ala | Leu | Ser | Phe | Ile | Ile | Ile | Leu | Val | Tyr | Val | Leu | Asp |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Trp | Ala | Ala | Ile | Thr | Arg | Cys | His | Arg | Leu | Ser | Gly | Leu | Asn | Asn | Lys |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| His | Ser | Tyr | Pro | Thr | Val | Thr | Glu | Ala | Glu | Lys | Pro | Gly | Val | Lys | Val |
| | | | 100 | | | | 105 | | | | | 110 | | | |
| Pro | Ala | Trp | Ser | Asp | Ser | Val | Leu | Glu | Ala | Gly | Lys | Ser | Lys | Met | Glu |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Ala | Leu | Val | Gly | Leu | Val | Ser | Gly | Arg | Ala | Ser | Leu | Cys | Phe | Gln | Asp |

<213> Homo sapiens

<400> 4524

Ala Leu Tyr Ile Leu Val Cys Thr Arg Asp Ser Ser Ala Arg Leu Leu
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 Gly Lys Thr Lys Asp Thr Pro Arg Leu Ser Leu Xaa Leu Val Ile Leu
 20 25 30
 Gly Val Ile Phe Met Asn Gly Asn Arg Ala Ser Glu Ala Val Leu Trp
 35 40 45
 Glu Ala Leu Arg Lys Met Gly Leu Arg Pro Gly Val Arg His Pro Phe
 50 55 60
 Leu Gly Asp Leu Arg Lys Leu Ile Thr Asp Asp Phe Val Lys Gln Lys
 65 70 75 80
 Tyr Leu Glu Tyr Lys Lys Ile Pro Asn Ser Asn Pro Pro Glu Tyr Glu
 85 90 95
 Phe Leu Trp Gly Leu Arg Ala Arg His Glu Thr Ser Lys Met Arg Val
 100 105 110
 Leu Arg Phe Ile Ala Gln Asn Gln Asn Arg Asp Pro Arg Glu Trp Lys
 115 120 125
 Ala His Phe Leu Glu Ala Val Asp Asp Ala Phe Lys Thr Met Asp Val
 130 135 140
 Asp Met Ala Glu Glu His Ala Arg Ala Gln Met Arg Ala Gln Met Asn
 145 150 155 160
 Ile Gly Asp Glu Ala Leu Ile Gly Arg Trp Trp Asp Asp Ile Gln
 165 170 175
 Val Glu Leu Leu Thr Trp Asp Glu Asp Gly Asp Phe Gly Asp Ala Trp
 180 185 190
 Ala Arg Ile Pro Phe Ala Phe Trp Ala Arg Tyr His Gln Tyr Ile Leu
 195 200 205
 Asn Ser Asn Arg Ala Asn Arg Arg Ala Thr Trp Arg Ala Gly Val Ser
 210 215 220
 Ser Gly Thr Asn Gly Gly Ala Ser Thr Ser Val Leu Asp Gly Pro Ser
 225 230 235 240
 Thr Ser Ser Thr Ile Arg Thr Arg Asn Ala Ala Arg Ala Gly Ala Ser
 245 250 255
 Phe Phe Ser Trp Ile Gln
 260

<210> 4525

<211> 1731

<212> DNA

<213> Homo sapiens

<400> 4525

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 120
 gagacagggga gccaaagctag ctgagagcag cctgggcagc taatctcctt cagttagggc
 180
 ctgcagcact tccagactgt ggacctttcc cccttcaaga aaagaatcca gccaaactatt
 240
 cgaaggactg ggctcgccgc cctccgacac tacctcttcg ggcctccaaa gctccaccag
 300

cgccctcggg aagaaaggga cttggctctg accattgctc agtgtggcct ggatagccaa
 360
 gaccagtg c atggccgagt cctccagacc atctataaga agctgaccgg ctccaagtgt
 420
 gactgtgccc ttcattggaaa ccaactgggag gacctgggct ttcagggagc gaatccagcc
 480
 acagacctga gaggcgagg cttccttgcc ctctgcac tgcctcact agtgatggag
 540
 tcaaagacct tgcgatggc gcaggagatt ttccgctgt ctgctacca catccagcaa
 600
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 660
 gagtgtctct ccagagagtg taatcggcag cagaaggcca tccccgtggg gaacagcttc
 720
 tatgcccga cattctcca cctcgacat gtctggagga cacagcgga gaccatctca
 780
 gactcgggtc ttgtctcaa aggtgtgtctc tttcttctgg ggaggcctag gctgaatgca
 840
 cagtgtccca ggtccagaga gcccaagggtc gttgctagac tgggtttggc tgcagtctct
 900
 ccccatccac actttctcaa attccagctt accaaaatct ccatcacca cccctggag
 960
 tctgctagtt ctcccttctc tgcctgact gtgcctctt tctggtctta tacttatgac
 1020
 aagcatatat tctgatcaaa aattgggagc cagggtccaa tagttggact attcaaagtt
 1080
 gcaattgtgc agacaaggta gagtgtgtgg tcctgtggc ttagctggc tcctagcct
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 1260
 ctcaagcctc ctgctcccca attctctctg ttgcagagtt ggaagtattg gccaaaga
 1320
 gcccaaggcg ggctgtctca gacctggag ctgtacttgg ccagggtgtc aaagggacag
 1380
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 1440
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 1500
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 1560
 gccatgtcag gagcctggcc aggcgcac cctgtgtgtc tcagcagatg ggatatagga
 1620
 agctcctggg cttagctgtg ggaagccaag taccctcacc ggcatgggac atgaggggca
 1680
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 1731

<210> 4526

<211> 344

<212> PRT

<213> Homo sapiens

<400> 4526

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 Glu Pro Arg Val Val Ser Thr Glu Val Val Arg Ala Gln Glu Glu Trp
 20 25 30
 Glu Ala Val Asp Thr Ile Gln Pro Glu Thr Gly Ser Gln Ala Ser Ser
 35 40 45
 Glu Gln Pro Gly Gln Leu Ile Ser Phe Ser Glu Ala Leu Gln His Phe
 50 55 60
 Gln Thr Val Asp Leu Ser Pro Phe Lys Lys Arg Ile Gln Pro Thr Ile
 65 70 75 80
 Arg Arg Thr Gly Leu Ala Ala Leu Arg His Tyr Leu Phe Gly Pro Pro
 85 90 95
 Lys Leu His Gln Arg Leu Arg Glu Glu Arg Asp Leu Val Leu Thr Ile
 100 105 110
 Ala Gln Cys Gly Leu Asp Ser Gln Asp Pro Val His Gly Arg Val Leu
 115 120 125
 Gln Thr Ile Tyr Lys Lys Leu Thr Gly Ser Lys Phe Asp Cys Ala Leu
 130 135 140
 His Gly Asn His Trp Glu Asp Leu Gly Phe Gln Gly Ala Asn Pro Ala
 145 150 155 160
 Thr Asp Leu Arg Gly Ala Gly Phe Leu Ala Leu Leu His Leu Leu Tyr
 165 170 175
 Leu Val Met Asp Ser Lys Thr Leu Pro Met Ala Gln Glu Ile Phe Arg
 180 185 190
 Leu Ser Arg His His Ile Gln Gln Phe Pro Phe Cys Leu Met Ser Val
 195 200 205
 Asn Ile Thr His Ile Ala Ile Gln Ala Leu Arg Glu Glu Cys Leu Ser
 210 215 220
 Arg Glu Cys Asn Arg Gln Gln Lys Val Ile Pro Val Val Asn Ser Phe
 225 230 235 240
 Tyr Ala Ala Thr Phe Leu His Leu Ala His Val Trp Arg Thr Gln Arg
 245 250 255
 Lys Thr Ile Ser Asp Ser Gly Phe Val Leu Lys Gly Val Leu Phe Leu
 260 265 270
 Leu Gly Arg Pro Arg Leu Asn Ala Gln Cys Pro Arg Ser Arg Glu Pro
 275 280 285
 Lys Val Val Ala Arg Leu Val Leu Ala Ala Val Leu Pro His Pro His
 290 295 300
 Phe Leu Lys Phe Gln Leu Thr Lys Ile Ser Ile Thr His Pro Leu Glu
 305 310 315 320
 Ser Ala Ser Ser Pro Phe Ser Ala Leu Thr Val Ala Leu Phe Trp Ser
 325 330 335
 Tyr Thr Tyr Asp Lys His Ile Phe
 340

<210> 4527

<211> 885

<212> DNA

<213> Homo sapiens

<400> 4527

nntttttttt tttttttttt tttttttttt tttttttttt tttttttttt cagagacatg
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<210> 4528
<211> 206
<212> PRT
<213> Homo sapiens
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3725


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145                150                155                160
Pro Pro Pro Trp Leu Ser Ile Ile Ser Asp Ser Gly Thr Gln Thr Pro
                165                170                175
Ser Pro Arg Arg Cys Pro Ala Arg Pro Ser Pro Trp Gly Pro Gln Cys
                180                185                190
Trp Arg Gly Gly Arg Ile Ala Ser Ala Glu Ala Ser Ser Thr
                195                200                205

```

<210> 4529
 <211> 546
 <212> DNA
 <213> Homo sapiens

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<400> 4529
nngagagctg agaggtggaa aatggcgctg acgtgagcgc gaactcgac tgcccagagg
60
gtggcgcgcg cctaagctgc agccgcgga gccgcagaaa caagaggccg agccgtgtcg
120
aagatggagg agaaaccctc agggcccatc cgggacatgc tggccactgc agagcccagc
180
tccagtgaga cgcacaagga ggtgtgtcc ccggctgtgc cagctgcagc cccctcctcc
240
tccatgtcgg aggagccagg ccctgagcag gcagccacac cgccagtggg gaacgtggag
300
gggctggagg gatgcagcag ggctctctcc cagcccaga cagctgccag tctggccccg
360
gaccagccc tggcctgacc agcatagtct ccgggaccag cgaggacctg cggcctccca
420
gacgacgccc acctccaggg aagcaaatcc cttgctocag cctgggtgc tgccctagtt
480
ttccagcgt ccgtgacctg gcacagcatc tgcaaccca ctgcccgcg agccctatgc
540
agtctc
546

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<210> 4530
 <211> 84
 <212> PRT
 <213> Homo sapiens

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<400> 4530
Met Glu Glu Lys Pro Ser Gly Pro Ile Pro Asp Met Leu Ala Thr Ala
1          5          10          15
Glu Pro Ser Ser Ser Glu Thr Asp Lys Glu Val Leu Ser Pro Ala Val
20        25        30
Pro Ala Ala Ala Pro Ser Ser Ser Met Ser Glu Glu Pro Gly Pro Glu
35        40        45
Gln Ala Ala Thr Pro Pro Val Gly Asn Val Glu Gly Leu Glu Gly Cys
50        55        60
Ser Arg Ala Pro Pro Gln Pro Gln Thr Ala Ala Ser Leu Ala Pro Asp
65        70        75        80
Pro Ala Leu Ala

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<210> 4531

<211> 1414

<212> DNA

<213> Homo sapiens

<400> 4531

nncacgtggc ctccgagcag ctccgggcgc ccttgaaagt tcttgatct gcgggttatg
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gccgggtccct tgcaggggcg tgggggcccg gccctggacc tactccgggg cctgccgcgt
120
gtgagcctgg ccaacttaaa gccgaatccc ggctccaaga aaccggagag aagaccaaga
180
ggtcggagaa gaggtagaaa atgtggcaga ggccataaag gagaaagca aagaggaacc
240
cggccccgct tgggctttga gggaggccag actccatttt acatccgaat cccaaaatac
300
gggttttaacg aaggacatag ttccagacgc cagtataagc ctttgagtct caatagactg
360
cagtatctta ttgatttggg tcgtgttgat cctagtcaac ctattgactt aaccagctt
420
gtcaatggga gaggtgtgac catccagcca cttaaaaggg attatggtgt ccagctggtt
480
gaggagggtg ctgacacctt tacggcaaaa gttaatatgt aagtacagtt ggcttcagaa
540
ctagctattg ctgccattga aaaaaatggt ggtgtgtgta ctacagcctt ctatgatcca
600
agaagtcttg acattgtatg caaacctggt ccattctttc ttcgtggaca acccattcca
660
aaaagaatgc ttccaccaga agaactggta ccatattaca ctgatgcaaa gaaccgtggg
720
tacctggcgg atcctgccaa atttcttgaa gcacgacttg aactcgccag gaagtatggt
780
tatatcttac ctgatatcac taaagatgaa ctcttcaaaa tgctctgtac taggaaggat
840
ccaaggcaga ttttctttgg tcttgctcca gtaggggtgg tgaatatggc cgataagaaa
900
atccataaac ctacagatga aaatctcctt aagtattata cctcatgaat tcccgctcaa
960
ggaagcagag ttgttaaaag gtactggaat aggggctgaa ggaatctatat tccttattg
1020
catttttctt atgtataatt ttccagatgg tgatgttact ttccagtga ctcatatgtc
1080
tcattttcat ctaaaattaa atggcaggaa acaaggactg catagagaaa ctgagctgtg
1140
gtgggttctg tctcaaagat acaaactccc tgatagtcta tggaaggaaa atgacaacta
1200
ttttagaata tttctagtgt gttttttcag tgatcttttc atccaggcct tgttactgtt
1260
acagatcaga atgaaatgca caagtggaaat gggattgacc ttagggcctg ctctgccgag
1320
atgagagcag atggaatgag ttggtgaccc ctcttaatct gtagcctcag ggaacacggg
1380
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1414

<210> 4532

<211> 296

<212> PRT

<213> Homo sapiens

<400> 4532

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Met Ala Gly Pro Leu Gln Gly Gly Gly Ala Arg Ala Leu Asp Leu Leu
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 20           25           30
Ser Lys Lys Pro Glu Arg Arg Pro Arg Gly Arg Arg Arg Gly Arg Lys
 35           40           45
Cys Gly Arg Gly His Lys Gly Glu Arg Gln Arg Gly Thr Arg Pro Arg
 50           55           60
Leu Gly Phe Glu Gly Gly Gln Thr Pro Phe Tyr Ile Arg Ile Pro Lys
 65           70           75
Tyr Gly Phe Asn Glu Gly His Ser Phe Arg Arg Gln Tyr Lys Pro Leu
 85           90           95
Ser Leu Asn Arg Leu Gln Tyr Leu Ile Asp Leu Gly Arg Val Asp Pro
100           105           110
Ser Gln Pro Ile Asp Leu Thr Gln Leu Val Asn Gly Arg Gly Val Thr
115           120           125
Ile Gln Pro Leu Lys Arg Asp Tyr Gly Val Gln Leu Val Glu Glu Gly
130           135           140
Ala Asp Thr Phe Thr Ala Lys Val Asn Ile Glu Val Gln Leu Ala Ser
145           150           155
Glu Leu Ala Ile Ala Ala Ile Glu Lys Asn Gly Gly Val Val Thr Thr
165           170           175
Ala Phe Tyr Asp Pro Arg Ser Leu Asp Ile Val Cys Lys Pro Val Pro
180           185           190
Phe Phe Leu Arg Gly Gln Pro Ile Pro Lys Arg Met Leu Pro Pro Glu
195           200           205
Glu Leu Val Pro Tyr Tyr Thr Asp Ala Lys Asn Arg Gly Tyr Leu Ala
210           215           220
Asp Pro Ala Lys Phe Pro Glu Ala Arg Leu Glu Leu Ala Arg Lys Tyr
225           230           235
Gly Tyr Ile Leu Pro Asp Ile Thr Lys Asp Glu Leu Phe Lys Met Leu
245           250           255
Cys Thr Arg Lys Asp Pro Arg Gln Ile Phe Phe Gly Leu Ala Pro Gly
260           265           270
Trp Val Val Asn Met Ala Asp Lys Lys Ile Leu Lys Pro Thr Asp Glu
275           280           285
Asn Leu Leu Lys Tyr Tyr Thr Ser
290           295

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<210> 4533

<211> 968

<212> DNA

<213> Homo sapiens

<400> 4533

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acgcgtgccc agcacatgtg tgcacacgca gatgcaggag agaacacaca ccaccgtctc
60

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 120
 gcgcggcggc cccgcgcagc catggactgg ctcatgggga agtccaaagc caagcccaat
 180
 ggcaagaagc ccgctgcgga ggagaggaag gcctacatgg agcctgagca caccaaggcc
 240
 aggatcacgc acttccagtt caaggagctg gtggtgctgc cccgggagat cgacctcaac
 300
 gagtggctgg ccagcaaac aacaacattt ttccaccaca tcaacctgca gtatagcaca
 360
 atctcggagt tctgcacagg agagacgtgt cagacgatgg ccgtgtgcaa cacacagtac
 420
 tactggatg acgagcgggg gaagaaggtc aagtgcacgg cccacagta cgttgacttc
 480
 gtcatgagct ccgtgcagaa gctggtgacg gatgaggacg tgttccccac aaaatacggc
 540
 agagaattcc ccagctcctt tgagtccttg gtgaggaaga tctgcagaca cctgttccac
 600
 gtgctggcac acatctactg gggccacttc aaggagacgc tggccctgga gctgcacgga
 660
 cacttgaaca cgctctacgt ccacttcac cttcttctgc gggagttcaa cctgctggac
 720
 cccaaagaga ccgccatcat ggacgacctc accgaggtgc tatgcagcgg gggcggcggg
 780
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 840
 gtgaaggaga gatgagcccc ccgggccgga caggggcaca cgtgtgcaaa gagacggtgg
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 tgtgtgttct ctctctgcat tgcgtgtgca cacatgtgct gggccctctc agacctcacc
 960
 acacgcgt
 968

<210> 4534

<211> 284

<212> PRT

<213> Homo sapiens

<400> 4534

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Arg | Ala | Gln | His | Met | Cys | Ala | His | Ala | Asp | Ala | Gly | Glu | Asn | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| His | His | Arg | Leu | Phe | Ala | His | Val | Cys | Pro | Cys | Pro | Asp | Ala | Gly | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Ala | Asp | Arg | Val | Gly | Gln | Arg | Ala | Arg | Arg | Pro | Arg | Ala | Ala | Met |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Asp | Trp | Leu | Met | Gly | Lys | Ser | Lys | Ala | Lys | Pro | Asn | Gly | Lys | Lys | Pro |
| | | 50 | | | | 55 | | | | 60 | | | | | |
| Ala | Ala | Glu | Glu | Arg | Lys | Ala | Tyr | Leu | Glu | Pro | Glu | His | Thr | Lys | Ala |
| | | | | 70 | | | | | 75 | | | | | 80 | |
| Arg | Ile | Thr | Asp | Phe | Gln | Phe | Lys | Glu | Leu | Val | Val | Leu | Pro | Arg | Glu |
| | | | | 85 | | | | 90 | | | | | | 95 | |
| Ile | Asp | Leu | Asn | Glu | Trp | Leu | Ala | Ser | Asn | Thr | Thr | Thr | Phe | Phe | His |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| His | Ile | Asn | Leu | Gln | Tyr | Ser | Thr | Ile | Ser | Glu | Phe | Cys | Thr | Gly | Glu |

```

      115              120              125
Thr Cys Gln Thr Met Ala Val Cys Asn Thr Gln Tyr Trp Tyr Asp
  130              135              140
Glu Arg Gly Lys Lys Val Lys Cys Thr Ala Pro Gln Tyr Val Asp Phe
  145              150              155              160
Val Met Ser Ser Val Gln Lys Leu Val Thr Asp Glu Asp Val Phe Pro
      165              170              175
Thr Lys Tyr Gly Arg Glu Phe Pro Ser Ser Phe Glu Ser Leu Val Arg
      180              185              190
Lys Ile Cys Arg His Leu Phe His Val Leu Ala His Ile Tyr Trp Ala
      195              200              205
His Phe Lys Glu Thr Leu Ala Leu Glu Leu His Gly His Leu Asn Thr
      210              215              220
Leu Tyr Val His Phe Ile Leu Phe Ala Arg Glu Phe Asn Leu Leu Asp
      225              230              235              240
Pro Lys Glu Thr Ala Ile Met Asp Asp Leu Thr Glu Val Leu Cys Ser
      245              250              255
Gly Ala Gly Gly Val His Ser Gly Gly Ser Gly Asp Gly Ala Gly Ser
      260              265              270
Gly Gly Pro Gly Ala Gln Asn His Val Lys Glu Arg
      275              280

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<210> 4535

<211> 473

<212> DNA

<213> Homo sapiens

<400> 4535

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120
ctcagcctcc cgagtagctg ggattacagg cgtccgccac cagcctccgc taatttttgc
180
atttttagta gaaacggggt ttcaccatct cggccaggct ggtcttgaac tcttgacctc
240
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300
ggccttggct gcagattaac gggaatacct cccttgggct tcctagtgga cactgtgata
360
ttcgggtatga cctcccttgc tctattcctt ggaagaagta caggcactgg tcaagagtgc
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473

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<210> 4536

<211> 75

<212> PRT

<213> Homo sapiens

<400> 4536

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Arg Leu Phe Phe Phe Phe Phe Glu Met Glu Ser Arg Ser Val Thr
  1              5              10              15
Gln Ala Gly Val Gln Trp His Asp His Ser Ser Leu Gln Pro Leu Pro

```

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 20 | | 25 | | 30 | | | | | | | | | | |
| Pro | Arg | Phe | Lys | Gln | Phe | Ser | Xaa | Leu | Ser | Leu | Pro | Ser | Ser | Trp | Asp |
| | 35 | | | | | | 40 | | | | | 45 | | | |
| Tyr | Arg | Arg | Pro | Pro | Pro | Arg | Pro | Ala | Asn | Phe | Cys | Ile | Phe | Ser | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Asn | Gly | Val | Ser | Pro | Ser | Arg | Pro | Gly | Trp | Ser | | | | | |
| 65 | | | | | 70 | | | | | 75 | | | | | |

<210> 4537

<211> 2811

<212> DNA

<213> Homo sapiens

<400> 4537

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120
ataaaacgtt ctgaactacc tctgcgaggt gacattgtct tctttcttca gaaggttcat
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240
ggccaactca ccctcatcct tgtcgaccat catatcttat ccaaaagtga cacagcccta
300
gaggagngca gtagcagagg tgctagacca tcgaccatc gagccgaaac actgccctcc
360
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420
ctgcaggggg caccagagat cttggacagg caaactgcag ccttcttcca tggaaccatc
480
atctctggact gtgtcaacat ggaccttaaa attggaagg caaccccaaa ggacagcaaa
540
tatgtggaga aactagaggg ccttttccca gacctacca agagaaatga tatatttgat
600
tccetacaaa aggcaaagtt tgatgtatca ggactgacca ctgagcagat gctgagaaaa
660
gaccagaaga ctatctatag acaaggcgct aagggtggcca ttagtgaat atatatggat
720
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780
cacagctatg atgtcctggg tgccatgact atctttttca acactcacia tgagccagtg
840
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960
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1020
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1080
gatgtgtcca gggagcaagt ggacaaggaa ttgacacagg caagtaactc cctgatttct
1140
ggactgagtc aagatgagga ggaccctccg ctgccccga cgcctcatgaa cagcttgggtg
1200

```

gatgagtgcc ctctagatca ggggctgcct aaactctctg ctgaggccgt cttcgagaag
1260
tgacgtcaga tctcactgtc acagtcctacc acagcctccc tgtccaagaa gtgactgttg
1320
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1380
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1440
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1560
tatttgccag gggcacgatg tgacatatct gcagtccag cactgtggga caaaagaat
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1740
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1920
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1980
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2640
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2700
agtgggtgta tcatgaacca aaggaattta tgttttgtaa cttgggtact tttattttgca
2760
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2811

<210> 4538
 <211> 437
 <212> PRT
 <213> Homo sapiens

<400> 4538
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 Ser Ala Leu Ala Leu Ala Phe Tyr Leu Ala Lys Thr Thr Glu Ala Glu
 20 25 30
 Glu Val Phe Val Pro Val Leu Asn Ile Lys Arg Ser Glu Leu Pro Leu
 35 40 45
 Arg Gly Asp Ile Val Phe Phe Leu Gln Lys Val His Ile Pro Glu Ser
 50 55 60
 Ile Leu Ile Phe Arg Asp Glu Ile Asp Leu His Ala Leu Tyr Gln Ala
 65 70 75 80
 Gly Gln Leu Thr Leu Ile Leu Val Asp His His Ile Leu Ser Lys Ser
 85 90 95
 Asp Thr Ala Leu Glu Glu Xaa Ser Ser Arg Gly Ala Arg Pro Ser Thr
 100 105 110
 His Arg Ala Glu Thr Leu Pro Ser Leu Xaa His Val Ser Val Glu Leu
 115 120 125
 Val Gly Ser Cys Ala Thr Leu Val Thr Glu Arg Ile Leu Gln Gly Ala
 130 135 140
 Pro Glu Ile Leu Asp Arg Gln Thr Ala Ala Leu Leu His Gly Thr Ile
 145 150 155 160
 Ile Leu Asp Cys Val Asn Met Asp Leu Lys Ile Gly Lys Ala Thr Pro
 165 170 175
 Lys Asp Ser Lys Tyr Val Glu Lys Leu Glu Ala Leu Phe Pro Asp Leu
 180 185 190
 Pro Lys Arg Asn Asp Ile Phe Asp Ser Leu Gln Lys Ala Lys Phe Asp
 195 200 205
 Val Ser Gly Leu Thr Thr Glu Gln Met Leu Arg Lys Asp Gln Lys Thr
 210 215 220
 Ile Tyr Arg Gln Gly Val Lys Val Ala Ile Ser Ala Ile Tyr Met Asp
 225 230 235 240
 Leu Glu Ala Phe Leu Gln Arg Ser Asn Leu Leu Ala Asp Leu His Ala
 245 250 255
 Phe Cys Gln Ala His Ser Tyr Asp Val Leu Val Ala Met Thr Ile Phe
 260 265 270
 Phe Asn Thr His Asn Glu Pro Val Arg Gln Leu Ala Ile Phe Cys Pro
 275 280 285
 His Val Ala Leu Gln Thr Thr Ile Cys Glu Val Leu Glu Arg Ser His
 290 295 300
 Ser Pro Pro Leu Lys Leu Thr Pro Ala Ser Ser Thr His Pro Asn Leu
 305 310 315 320
 His Ala Tyr Leu Gln Gly Asn Thr Gln Val Ser Arg Lys Lys Leu Leu
 325 330 335
 Pro Leu Leu Gln Glu Ala Leu Ser Ala Tyr Phe Asp Ser Met Lys Ile
 340 345 350
 Pro Ser Gly Gln Pro Glu Thr Ala Asp Val Ser Arg Glu Gln Val Asp
 355 360 365
 Lys Glu Leu Asp Arg Ala Ser Asn Ser Leu Ile Ser Gly Leu Ser Gln


```

      370              375              380
Asp Glu Glu Asp Pro Pro Leu Pro Pro Thr Pro Met Asn Ser Leu Val
385              390              395              400
Asp Glu Cys Pro Leu Asp Gln Gly Leu Pro Lys Leu Ser Ala Glu Ala
              405              410              415
Val Phe Glu Lys Cys Ser Gln Ile Ser Leu Ser Gln Ser Thr Thr Ala
              420              425              430
Ser Leu Ser Lys Lys
435

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<210> 4539
 <211> 331
 <212> DNA
 <213> Homo sapiens

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<400> 4539
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120
tcacctggaa actccagcaa gaggcagaggc aggtggaggga gctgaggatg cagcttcaga
180
agcagaaaaa gaataactgt tcagagaaga agccgtgccc ttctctggct gcctccatca
240
agcaagaaga ggctgtctcc agctgtcctt ttgcatccca agtacctgtg aaaagacaaa
300
gcagcagctc aaagtgtcac ccaccggctt g
331

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<210> 4540
 <211> 99
 <212> PRT
 <213> Homo sapiens

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<400> 4540
Met Gly Ala Leu Phe Leu Leu Ser Trp Met Gly Trp Thr Pro Arg Lys
1          5          10          15
Thr Arg Ser Leu Gly Glu Asn Gln Arg Val Ile Asn Glu Leu Thr Trp
20          25          30
Lys Leu Gln Gln Glu Gln Arg Gln Val Glu Glu Leu Arg Met Gln Leu
35          40          45
Gln Lys Gln Lys Arg Asn Asn Cys Ser Glu Lys Lys Pro Leu Pro Phe
50          55          60
Leu Ala Ala Ser Ile Lys Gln Glu Glu Ala Val Ser Ser Cys Pro Phe
65          70          75          80
Ala Ser Gln Val Pro Val Lys Arg Gln Ser Ser Ser Ser Lys Cys His
85          90          95
Pro Pro Ala

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<210> 4541
 <211> 452
 <212> DNA
 <213> Homo sapiens

<400> 4541
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 120
 tccagtctga gaaccataaa aaatcttcac tccagacaca aagatgtctt tctcttgaag
 180
 ggagacataa ccattttgtca tcaaatacctg agctgctttt ggaacagatt tttcctgtaa
 240
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 300
 aaagcccaaa taaatgtaaa acctgtttat ccacaatgat attaaagggtg agaagagggtc
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 420
 ctggagagcc cgatgattcg cactgggtact gc
 452

<210> 4542
 <211> 128
 <212> PRT
 <213> Homo sapiens

<400> 4542
 Met Asp Pro Ser Ala Asp Thr Trp Asp Leu Phe Ser Pro Leu Ile Ser
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 Leu Trp Ile Asn Arg Phe Tyr Ile Tyr Leu Gly Phe Ala Val Ser Ile
 20 25 30
 Ser Leu Trp Ile Cys Val Gln Ile Val Ile Lys Thr Gln Gly Lys Asn
 35 40 45
 Leu Gln Glu Lys Ser Val Pro Lys Ala Ala Gln Asp Leu Met Thr Asn
 50 55 60
 Gly Tyr Val Ser Leu Gln Glu Lys Asp Ile Phe Val Ser Gly Val Lys
 65 70 75 80
 Ile Phe Tyr Gly Ser Gln Thr Gly Thr Ala Lys Gly Phe Ala Thr Val
 85 90 95
 Leu Ala Glu Ala Val Thr Ser Leu Asp Leu Pro Val Ala Ile Ile Asn
 100 105 110
 Leu Lys Glu Tyr Asp Pro Asp Asp His Leu Ile Glu Glu Val Thr Ser
 115 120 125

<210> 4543
 <211> 815
 <212> DNA
 <213> Homo sapiens

<400> 4543
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 120
 gaggcccccgc gcaccaatgc ttgcacttt gctcgcgccg acaccctgcg ggccagagct
 180

cctctgccgc ccaccgggct aacccttccg ggccctacca ctcccagatg gctctgctta
 240
 tccggccact gaetccggct cctcggaagc agggccaccc tcctgaaatg gcttggaacg
 300
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 360
 gacacagcgg cagccccctg tagcttggtg ctgttcagaa acaagtccag ccagggtagg
 420
 gcagagggct ctgactgggg acccaagaag ggctggctgt gccgccaccg ctgccccgtc
 480
 accatcactg tgctgaagag ctcgaggctg ggcccacccg cgccggcccc acgttctctc
 540
 ccgggctcag gtcaggggcca gggagtacc agaaggtgct gaccctgtgg cctgactggc
 600
 ccagagctca cccctgaaca tgagcaagcg caaagaaacc cccatccctg ctccccaaaa
 660
 agggcgcccc caaggccatt ttgaaggtgg ggggaagccc ggattccgag aaaccgcaac
 720
 cagccgtcta cctcaggaag ctcgctaggg aggagcgcat tctatgtgac taatgctggc
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 815

<210> 4544

<211> 150

<212> PRT

<213> Homo sapiens

<400> 4544

Met Val Thr Gly Gln Arg Trp Arg His Ser Gln Pro Phe Leu Gly Pro
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 Gln Ser Glu Pro Ser Ala Leu Pro Gly Leu Asp Leu Phe Leu Asn Ser
 20 25 30
 His Lys Leu Gln Gly Ala Ala Val Ser Leu Ala Arg His Trp Pro
 35 40 45
 Ile Thr Ser Asn Arg Leu Gly Arg Ala Pro Val Glu Ser Pro Val Pro
 50 55 60
 Ser His Phe Arg Arg Val Ala Leu Leu Pro Arg Ser Arg Ser Gln Trp
 65 70 75 80
 Pro Asp Lys Gln Ser His Ser Gly Val Val Arg Pro Gly Arg Val Ser
 85 90 95
 Pro Val Gly Gly Arg Gly Ala Leu Ala Arg Arg Val Ser Gly Glu Ala
 100 105 110
 Lys Cys Lys Ala Leu Val Arg Gly Ala Ser Gly Ser His Gly Gly Ala
 115 120 125
 Ala Gly Gln Gly Pro Ala Val Thr Arg Ser Pro Ser Ser Leu Cys Leu
 130 135 140
 Ala Leu Val Ser Thr Gly
 145 150

<210> 4545

<211> 3568

<212> DNA

<213> Homo sapiens

<400> 4545
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120
gacagaaatg cagaggagaa aaagcggtta tctcttcagc gagaaaagat tatcgcaagg
180
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240
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300
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360
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420
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480
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540
gattacattt gtgggtgaag cacaggtgcc atattagctt tcatgttggg gttgtttcat
600
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660
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720
tgggaaaaca ttcttaagga taggatggga tctgcactga tgattgaaac agcaagaaac
780
cccacatgct ctaaggtagc tgctgtaagt accatagtaa atagagggat aacacccaaa
840
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900
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960
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1380
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1560

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2040
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2340
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2580
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2700
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2760
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2820
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3060
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3180

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 3240
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 3300
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 3360
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 3480
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 3568

<210> 4546

<211> 380

<212> PRT

<213> Homo sapiens

<400> 4546

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| Glu | Arg | Ile | Ile | Pro | Tyr | Leu | Leu | Arg | Leu | Arg | Gln | Ile | Lys | Asp | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Leu | Gln | Ala | Ala | Val | Arg | Glu | Ile | Leu | Ala | Leu | Ile | Gly | Tyr | Val |
| | | | 20 | | | | | | 25 | | | | 30 | | |
| Asp | Pro | Val | Lys | Gly | Arg | Gly | Ile | Arg | Ile | Leu | Ser | Ile | Asp | Gly | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Thr | Arg | Gly | Val | Val | Ala | Leu | Gln | Thr | Leu | Arg | Lys | Leu | Val | Glu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
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| Val | Phe | Arg | Asn | Tyr | Gly | His | Phe | Pro | Gly | Ile | Asn | Ser | His | Tyr | Leu |
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| Cys | Lys | Cys | Leu | Trp | Pro | Asp | Val | Pro | Leu | Glu | Cys | Ile | Val | Ser | Leu |
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| Gly | Thr | Gly | Arg | Tyr | Glu | Ser | Asp | Val | Arg | Asn | Thr | Val | Thr | Tyr | Thr |

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| Glu | Lys | Thr | Thr | Leu | Gln | Lys | Ile | Asn | Asp | Trp | Ile | Lys | Leu | Lys | Thr | | | | |
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460

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<213> Homo sapiens

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<213> Homo sapiens

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| His | His | Phe | Val | Gly | Cys | Leu | Glu | Trp | Asn | Asp | Lys | Lys | Tyr | Ser | Leu |
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| Leu | Thr | Gln | Asn | Ile | Leu | Thr | Phe | Asn | Lys | Cys | Cys | Ile | Ser | Gly | Arg |
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| Arg | Gly | Arg | Ala | Gly | Val | Leu | Ala | Pro | Ala | Gly | His | Leu | Pro | His | Gly |
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<400> 4551

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<210> 4552

<211> 100

<212> PRT

<213> Homo sapiens

<400> 4552

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20          25          30
Ser Ala Ala His Cys Pro Val Pro Gly Ile Ser Glu Gly Pro Arg Thr
35          40          45
Cys Ser Gln Gln Gly Arg Gln Gly Arg Ala Pro Arg Arg Asp Pro Thr
50          55          60
Gln Arg Thr Trp Glu Ser Gly Cys Gln Arg Trp Ala Ala Gly Arg Ala

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| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | 70 | | 75 | | 80 | | | | | | | | | |
| Pro | Ala | Lys | Gln | Ser | Leu | Cys | Gly | Val | Pro | His | Ala | Ala | Glu | Val | Ser |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Val | Arg | Cys | Trp | | | | | | | | | | | | |
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<210> 4553
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 <213> Homo sapiens

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 1080
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<210> 4554

<211> 705

<212> PRT

<213> Homo sapiens

<400> 4554

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Leu | Arg | Ile | His | Val | Leu | Leu | Gly | Leu | Ala | Ile | Thr | Thr | Leu |
| 1 | | | 5 | | | | | | 10 | | | | | 15 | |
| Val | Gln | Ala | Val | Asp | Lys | Lys | Val | Asp | Cys | Pro | Arg | Leu | Cys | Thr | Cys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Ile | Arg | Pro | Trp | Phe | Thr | Pro | Arg | Ser | Ile | Tyr | Met | Glu | Ala | Ser |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Thr | Val | Asp | Cys | Asn | Asp | Leu | Gly | Leu | Leu | Thr | Phe | Pro | Ala | Arg | Leu |
| 50 | | | | | 55 | | | | | 60 | | | | | |
| Pro | Ala | Asn | Thr | Gln | Ile | Leu | Leu | Leu | Gln | Thr | Asn | Asn | Ile | Ala | Lys |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Ile | Glu | Tyr | Ser | Thr | Asp | Phe | Pro | Val | Asn | Leu | Thr | Gly | Leu | Asp | Leu |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Ser | Gln | Asn | Asn | Leu | Ser | Ser | Val | Thr | Asn | Ile | Asn | Val | Lys | Lys | Met |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Pro | Gln | Leu | Leu | Ser | Val | Tyr | Leu | Glu | Glu | Asn | Lys | Leu | Thr | Glu | Leu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Pro | Glu | Lys | Cys | Leu | Ser | Glu | Leu | Ser | Asn | Leu | Gln | Glu | Leu | Tyr | Ile |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Asn | His | Asn | Leu | Leu | Ser | Thr | Ile | Ser | Pro | Gly | Ala | Phe | Ile | Gly | Leu |
| 145 | | | | 150 | | | | | | 155 | | | | 160 | |
| His | Asn | Leu | Leu | Arg | Leu | His | Leu | Asn | Ser | Asn | Arg | Leu | Gln | Met | Ile |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Asn | Ser | Lys | Trp | Phe | Asp | Ala | Leu | Pro | Asn | Leu | Glu | Ile | Leu | Met | Ile |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Gly | Glu | Asn | Pro | Ile | Ile | Arg | Ile | Lys | Asp | Met | Asn | Phe | Lys | Pro | Leu |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Ile | Asn | Leu | Arg | Ser | Leu | Val | Ile | Ala | Gly | Ile | Asn | Leu | Thr | Glu | Ile |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Pro | Asp | Asn | Ala | Leu | Val | Gly | Leu | Glu | Asn | Leu | Glu | Ser | Ile | Ser | Phe |
| 225 | | | | 230 | | | | | | 235 | | | | 240 | |
| Tyr | Asp | Asn | Arg | Leu | Ile | Lys | Val | Pro | His | Val | Ala | Leu | Gln | Lys | Val |
| | | | 245 | | | | | 250 | | | | | | 255 | |
| Val | Asn | Leu | Lys | Phe | Leu | Asp | Leu | Asn | Lys | Asn | Pro | Ile | Asn | Arg | Ile |
| | | 260 | | | | | 265 | | | | | 270 | | | |
| Arg | Arg | Gly | Asp | Phe | Ser | Asn | Met | Leu | His | Leu | Lys | Glu | Leu | Gly | Ile |
| | | 275 | | | | 280 | | | | | | 285 | | | |
| Asn | Asn | Met | Pro | Glu | Leu | Ile | Ser | Ile | Asp | Ser | Leu | Ala | Val | Asp | Asn |
| | | 290 | | | | 295 | | | | | 300 | | | | |
| Leu | Pro | Asp | Leu | Arg | Lys | Ile | Glu | Ala | Thr | Asn | Asn | Pro | Arg | Leu | Ser |
| 305 | | | | 310 | | | | | | 315 | | | | 320 | |
| Tyr | Ile | His | Pro | Asn | Ala | Phe | Phe | Arg | Leu | Pro | Lys | Leu | Glu | Ser | Leu |
| | | | 325 | | | | | 330 | | | | | | 335 | |
| Met | Leu | Asn | Ser | Asn | Ala | Leu | Ser | Ala | Leu | Tyr | His | Gly | Thr | Ile | Glu |

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          355          360          365
Cys Asp Cys Val Ile Arg Trp Met Asn Met Asn Lys Thr Asn Ile Arg
          370          375          380
Phe Met Glu Pro Asp Ser Leu Phe Cys Val Asp Pro Pro Glu Phe Gln
          385          390          395          400
Gly Gln Asn Val Arg Gln Val His Phe Arg Asp Met Met Glu Ile Cys
          405          410          415
Leu Pro Leu Ile Ala Pro Glu Ser Phe Pro Ser Asn Leu Asn Val Glu
          420          425          430
Ala Gly Ser Tyr Val Ser Phe His Cys Arg Ala Thr Ala Glu Pro Gln
          435          440          445
Pro Glu Ile Tyr Trp Ile Thr Pro Ser Gly Gln Lys Leu Leu Pro Asn
          450          455          460
Thr Leu Thr Asp Lys Phe Tyr Val His Ser Glu Gly Thr Leu Asp Ile
          465          470          475          480
Asn Gly Val Thr Pro Lys Glu Gly Gly Leu Tyr Thr Cys Ile Ala Thr
          485          490          495
Asn Leu Val Gly Ala Asp Leu Lys Ser Val Met Ile Lys Val Asp Gly
          500          505          510
Ser Phe Pro Gln Asp Asn Asn Gly Ser Leu Asn Ile Lys Ile Arg Asp
          515          520          525
Ile Gln Ala Asn Ser Val Leu Val Ser Trp Lys Ala Ser Ser Lys Ile
          530          535          540
Leu Lys Ser Ser Val Lys Trp Thr Ala Phe Val Lys Thr Glu Asn Ser
          545          550          555          560
His Ala Ala Gln Ser Ala Arg Ile Pro Ser Asp Val Lys Val Tyr Asn
          565          570          575
Leu Thr His Leu Asn Pro Ser Thr Glu Tyr Lys Ile Cys Ile Asp Ile
          580          585          590
Pro Thr Ile Tyr Gln Lys Asn Arg Lys Lys Cys Val Asn Val Thr Thr
          595          600          605
Lys Gly Leu His Pro Asp Gln Lys Glu Tyr Glu Lys Asn Asn Thr Thr
          610          615          620
Thr Leu Met Ala Cys Leu Gly Gly Leu Leu Gly Ile Ile Gly Val Ile
          625          630          635          640
Cys Leu Ile Ser Cys Leu Ser Pro Glu Met Asn Cys Asp Gly Gly His
          645          650          655
Ser Tyr Val Arg Asn Tyr Leu Gln Lys Pro Thr Phe Ala Leu Gly Glu
          660          665          670
Leu Tyr Pro Pro Leu Ile Asn Leu Trp Glu Ala Gly Lys Glu Lys Ser
          675          680          685
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Ser
705

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<210> 4555

<211> 1128

<212> DNA

<213> Homo sapiens

<400> 4555

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<211> 67

<212> PRT

<213> Homo sapiens

<400> 4556

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| Met | Pro | Ser | Val | Pro | Thr | Gln | Val | Ser | Glu | Arg | Pro | Leu | Met | Phe | Leu |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Leu | Asp | Thr | Pro | Gly | Val | Leu | Ala | Pro | Arg | Ile | Glu | Ser | Val | Glu | Thr |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Gly | Leu | Lys | Leu | Ala | Leu | Cys | Gly | Thr | Val | Leu | Asp | His | Leu | Val | Gly |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Glu | Glu | Thr | Met | Ala | Asp | Tyr | Leu | Leu | Tyr | Thr | Leu | Asn | Lys | His | Gln |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Arg | Phe | Gly | | | | | | | | | | | | | |

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<210> 4558
 <211> 148
 <212> PRT
 <213> Homo sapiens

<400> 4558
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 35 40 45
 Glu Thr Ser Arg Ala Phe Leu Pro Pro Ser Asp Val Arg Val Arg
 50 55 60
 Ser Cys Leu Tyr His Trp Ser Ala Thr Ala His Leu Pro Pro Leu Ser
 65 70 75 80
 Lys Lys Pro Pro Cys Thr Ile Ser His Leu Arg Pro Leu Leu Gly Leu
 85 90 95
 Pro Pro Pro Ser Asp Leu His Ile Pro Ser Ala Ala Thr Leu Gly Pro
 100 105 110
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<210> 4559
 <211> 919

<212> DNA

<213> Homo sapiens

<400> 4559

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<210> 4560

<211> 126

<212> PRT

<213> Homo sapiens

<400> 4560

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20          25          30
Pro Cys Asp Pro Asp Arg Asp Gln Arg Tyr Leu Thr Thr Tyr Asn Gln
35          40          45
Gly Tyr Phe Glu Asn Ile Pro Lys Gly Leu Asp Gln Glu Gly Trp Thr
50          55          60
Arg Gly Gly Ile Gln Pro Gln Met Pro Gly Gly Tyr Ala Leu Ser Gln
65          70          75          80
Pro Val Ser Cys Met Glu Ala Thr Pro Asn Pro Met Glu Ser Leu Arg

```

| | | | | | | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| 85 | | | | | | | | | | 90 | | | | | 95 | | | | |
| His | Leu | His | Pro | His | Val | Gly | Arg | Thr | Leu | Thr | Ser | Ala | Asp | Pro | Phe | | | | |
| 100 | | | | | | | | | | 105 | 110 | | | | | | | | |
| Tyr | Gln | Asn | Thr | Pro | His | Ser | Ser | Arg | Cys | Val | Ala | His | Ser | | | | | | |
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<210> 4566

<211> 247

<212> PRT

<213> Homo sapiens

<400> 4566

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 35 40 45
 Gln Ser Pro Pro Ile Val Glu Leu Arg Glu Lys Ile Gln Pro Glu Ile
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 65 70 75 80
 Ser Phe Arg Lys Ile Gly Asn Arg Arg Arg Gln Glu Arg Phe Trp Tyr

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      115              120              125
Pro Val Ala Asp Ile Lys Ala Ile Val Thr Gly Lys Asp Cys Pro His
      130              135              140
Met Lys Glu Lys Ser Ala Leu Lys Gln Asn Lys Glu Val Leu Glu Leu
      145              150              155              160
Ala Phe Ser Ile Leu Tyr Asp Pro Asp Glu Thr Leu Asn Phe Ile Ala
      165              170              175
Pro Asn Lys Tyr Glu Tyr Cys Ile Trp Ile Asp Gly Leu Ser Ala Leu
      180              185              190
Leu Gly Lys Asp Met Ser Ser Glu Leu Thr Lys Ser Asp Leu Asp Thr
      195              200              205
Leu Leu Ser Met Glu Met Lys Leu Arg Leu Leu Asp Leu Glu Asn Ile
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Gln Ile Pro Glu Ala Pro Pro Pro Ile Pro Lys Glu Pro Ser Ser Tyr
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<210> 4567

<211> 1211

<212> DNA

<213> Homo sapiens

<400> 4567

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<210> 4568
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 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Val Gln Gln Arg Glu Leu Ala Val Thr Ser Pro Lys Asp Gly Ser Ile
 50 55 60
 Ser Ile Leu Gly Ser Asp Ala Thr Thr Cys His Ile Val Val Leu
 65 70 75 80
 Arg His Thr Gly Asn Gly Ala Thr Cys Leu Thr His Cys Asp Gly Thr
 85 90 95
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<210> 4569
 <211> 1797
 <212> DNA
 <213> Homo sapiens

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<210> 4570

<211> 141

<212> PRT

<213> Homo sapiens

<400> 4570

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Gln Thr Trp His Ile Arg Phe Gly Asp Asn Gly Leu Gly Thr Leu Met
      35             40             45
Leu Leu Gly Pro Gly Glu Thr Val Leu Arg Gln Lys Leu Gly Val Gln
      50             55             60
Gly Gly Pro Arg Val Arg His Cys Gly Glu Gly Asn Ala Gly Glu Ser
65             70             75             80
Gly Pro Thr Leu Gln Leu Gly Thr Arg Gly Arg Lys Gln Arg Gly Gln
      85             90             95
Ala Ser Val Pro Leu Pro Gln Glu Gln Thr Ser Gly Pro Gln Glu Gly
      100            105            110
Leu Gln Ala Ala Arg Ser Leu Pro Ser Ala Gly Gly Ser Arg Gly Arg
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Lys Gly Trp Arg Ala Ala Gly Arg Gln Pro Ser Thr Arg
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<210> 4571

<211> 1084

<212> DNA

<213> Homo sapiens

<400> 4571

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720

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<210> 4572
 <211> 126
 <212> PRT
 <213> Homo sapiens

<400> 4572
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 35 40 45
 Ile Asp Glu Leu Ile Glu Ser Gly Lys Glu Glu Gly Met Lys Ile Asp
 50 55 60
 Leu Ile Asp Gly Lys Gly Arg Gly Val Ile Ala Thr Lys Gln Phe Ser
 65 70 75 80
 Arg Gly Asp Phe Val Val Glu Tyr His Gly Asp Leu Ile Glu Ile Thr
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 Asp Ala Lys Lys Arg Glu Ala Leu Tyr Ala Gln Asp Pro Ser Thr Gly
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 <211> 309
 <212> DNA
 <213> Homo sapiens

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<210> 4574
<211> 103
<212> PRT
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35 40 45
Ala Gly Ala Val Gly Thr Pro Gly Lys Arg Gly Pro Ser Gly Pro Gln
50 55 60
Gly Leu Leu Gly Pro Pro Gly Pro Pro Ala Pro Val Gly Pro Pro His
65 70 75 80
Ala Arg Ile Ser Gln His Gly Asp Pro Leu Leu Ser Asn Thr Phe Thr
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Glu Thr Asn Pro Phe Thr Arg
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<210> 4575
<211> 1068
<212> DNA
<213> Homo sapiens

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<210> 4576

<211> 107

<212> PRT

<213> Homo sapiens

<400> 4576

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Ala | Ala | Leu | His | Leu | Leu | Gln | Pro | Leu | Gly | His | Val | Ala | Arg | Glu |
| | | | 20 | | | | | 25 | | | | | | 30 | |
| Pro | Ala | Arg | His | Val | Ala | Thr | Ala | Gln | Gly | Glu | Val | Leu | Pro | Pro | Gly |
| | | | 35 | | | | | 40 | | | | | | 45 | |
| Gly | Leu | Gly | Gly | Ala | Ala | Gln | Arg | Ala | Arg | Gly | Gln | Ser | His | Gly | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Thr | Val | Pro | Gly | Asn | Ala | Pro | Ala | Ala | Asp | Leu | Leu | Ala | Leu | Ser | Pro |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Arg | Leu | Glu | Arg | Ser | Gly | Thr | Ile | Ser | Thr | His | Cys | Lys | Leu | Arg | Leu |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Pro | Gly | Ser | Arg | His | Ser | Pro | Ala | Ser | Ala | Ser | | | | | |
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<211> 3525

<212> DNA

<213> Homo sapiens

<400> 4577

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3180
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3240
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3525

<210> 4578

<211> 1007

<212> PRT

<213> Homo sapiens

<400> 4578

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Met Ser His Phe Pro Asp Arg Gly Ser Glu Asn Gly Thr Pro Met Asp
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Val Lys Ala Gly Val Arg Val Met Gln Val Ser Pro Asp Gly Gln His
 20
Leu Ala Ser Gly Asp Arg Ser Gly Asn Leu Arg Gln Val Gly Pro Gly
 35          40          45
Ser Val Gln Cys Thr Pro Pro Ser Ser Ser Ser Gly Ser Gln Gly Ser
 50          55          60
Gly Gln Lys Pro Trp Pro Trp His Leu Leu Leu Pro Ile Gly Asn Glu
 65          70          75          80
Gly Leu Ile His Glu Leu His Phe Met Asp Glu Leu Val Lys Val Glu
 85          90          95
Ala His Asp Ala Glu Val Leu Cys Leu Glu Tyr Ser Lys Pro Glu Thr
 100          105          110
Gly Leu Thr Leu Leu Ala Ser Ala Ser Arg Asp Arg Leu Ile His Val
 115          120          125
Leu Asn Val Glu Lys Asn Tyr Asn Leu Glu Gln Thr Leu Asp Asp His
 130          135          140
Ser Ser Ser Ile Thr Ala Ile Lys Phe Ala Gly Asn Arg Asp Ile Gln
 145          150          155          160
Met Ile Ser Cys Gly Ala Asp Lys Ser Ile Tyr Phe Arg Ser Ala Gln
 165          170          175
Gln Gly Ser Asp Gly Leu His Phe Val Arg Thr His His Val Ala Glu
 180          185          190
Lys Thr Thr Leu Tyr Asp Met Asp Ile Asp Ile Thr Gln Lys Tyr Val
 195          200          205
Ala Val Ala Cys Gln Asp Arg Asn Val Arg Val Tyr Asn Thr Val Asn
 210          215          220
Gly Lys Gln Lys Lys Cys Tyr Lys Gly Ser Gln Gly Asp Glu Gly Ser
 225          230          235          240
Leu Leu Lys Val His Val Asp Pro Ser Gly Thr Phe Leu Ala Thr Ser
 245          250          255
Cys Ser Asp Lys Ser Ile Ser Val Ile Asp Phe Tyr Ser Gly Glu Cys
 260          265          270
Ile Ala Lys Met Phe Gly His Ser Gly Gly Cys Ala Ser Leu Leu Gly
 275          280          285
Met Pro Pro His Pro Pro Thr Pro Ser Asp Ser Glu Gly Lys Cys Ser
 290          295          300
Leu Ser Ala Leu Phe Ala Glu Ile Ile Thr Ser Met Lys Phe Thr Tyr
 305          310          315          320
Asp Cys His His Leu Ile Thr Val Ser Gly Asp Ser Cys Val Phe Ile
 325          330          335
Trp His Leu Gly Pro Glu Ile Thr Asn Cys Met Lys Gln His Leu Leu
 340          345          350
Glu Ile Asp His Arg Gln Gln Gln Gln His Thr Asn Asp Lys Lys Arg
 355          360          365
Ser Gly His Pro Arg Ser Trp Gln Pro Leu Pro Val His Gln Arg Asp
 370          375          380
Glu Ser Leu Pro Gly Pro His Gly Val Met Leu Gly Thr Gln Ser Ser
 385          390          395          400
Leu Pro Ala Asn Gln Arg Gln Ala Ala Thr Val Gly Lys Ala Ala Gly

```

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|-----|--|--|--|--|--|--|--|--|--|--|-----|--|
| | | | | | | | | | | 405 | | | | | | | | | | | 410 | | | | | | | | | | | 415 | |
| Asp | Asp | Asp | Val | Ala | Asp | Gly | Leu | Ala | Phe | His | Ala | Lys | Arg | Ser | Tyr | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 420 | | | | | | | | | | | 425 | | | | | | | | | | | 430 | |
| Gln | Pro | His | Gly | Arg | Trp | Ala | Glu | Arg | Ala | Gly | Gln | Glu | Pro | Leu | Lys | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 435 | | | | | | | | | | | 440 | | | | | | | | | | | 445 | |
| Thr | Ile | Leu | Asp | Ala | Gln | Asp | Leu | Asp | Cys | Tyr | Phe | Thr | Pro | Met | Lys | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 450 | | | | | | | | | | | 455 | | | | | | | | | | | 460 | |
| Pro | Glu | Ser | Leu | Glu | Asn | Ser | Ile | Leu | Asp | Ser | Leu | Glu | Pro | Gln | Ser | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 465 | | | | | | | | | | | 470 | | | | | | | | | | | 475 | |
| Leu | Ala | Ser | Leu | Leu | Ser | Glu | Gln | Lys | Glu | Ser | Ser | Glu | Ala | Ser | Glu | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 485 | | | | | | | | | | | 490 | | | | | | | | | | | 495 | |
| Leu | Ile | Leu | Tyr | Ser | Leu | Glu | Ala | Glu | Val | Thr | Val | Thr | Gly | Thr | Asp | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 500 | | | | | | | | | | | 505 | | | | | | | | | | | 510 | |
| Ser | Gln | Tyr | Cys | Arg | Lys | Glu | Val | Glu | Ala | Gly | Pro | Gly | Asp | Gln | Gln | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 515 | | | | | | | | | | | 520 | | | | | | | | | | | 525 | |
| Gly | Asp | Ser | Tyr | Leu | Arg | Val | Ser | Ser | Asp | Ser | Pro | Lys | Asp | Gln | Ser | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 530 | | | | | | | | | | | 535 | | | | | | | | | | | 540 | |
| Pro | Pro | Glu | Gly | Pro | Thr | Glu | Asp | Glu | Leu | Ser | Leu | Pro | Glu | Gly | Pro | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 545 | | | | | | | | | | | 550 | | | | | | | | | | | 555 | |
| Ser | Val | Pro | Ser | Ser | Ser | Leu | Pro | Gln | Thr | Pro | Glu | Gln | Glu | Lys | Phe | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 565 | | | | | | | | | | | 570 | | | | | | | | | | | 575 | |
| Leu | Arg | His | His | Phe | Glu | Thr | Leu | Thr | Glu | Ser | Pro | Cys | Arg | Ala | Leu | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 580 | | | | | | | | | | | 585 | | | | | | | | | | | 590 | |
| Gly | Asp | Val | Glu | Ala | Ser | Glu | Ala | Glu | Asp | His | Phe | Phe | Asn | Pro | Arg | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 595 | | | | | | | | | | | 600 | | | | | | | | | | | 605 | |
| Leu | Ser | Ile | Ser | Thr | Gln | Phe | Leu | Ser | Ser | Leu | Gln | Lys | Ala | Ser | Arg | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 610 | | | | | | | | | | | 615 | | | | | | | | | | | 620 | |
| Phe | Thr | His | Thr | Phe | Pro | Pro | Arg | Ala | Thr | Gln | Cys | Leu | Val | Lys | Ser | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 625 | | | | | | | | | | | 630 | | | | | | | | | | | 635 | |
| Pro | Glu | Val | Lys | Leu | Met | Asp | Arg | Gly | Gly | Ser | Gln | Pro | Arg | Ala | Gly | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 645 | | | | | | | | | | | 650 | | | | | | | | | | | 655 | |
| Thr | Gly | Tyr | Ala | Ser | Pro | Asp | Arg | Thr | His | Ser | Val | Pro | Ser | Ala | Ser | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 660 | | | | | | | | | | | 665 | | | | | | | | | | | 670 | |
| Val | Thr | Ala | Pro | Cys | Leu | Thr | Ser | Leu | Ala | Ser | Cys | Val | Pro | Ala | Ser | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 675 | | | | | | | | | | | 680 | | | | | | | | | | | 685 | |
| Ser | Val | Leu | Pro | Thr | Asp | Arg | Asn | Leu | Pro | Thr | Pro | Thr | Ser | Ala | Pro | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 690 | | | | | | | | | | | 695 | | | | | | | | | | | 700 | |
| Thr | Pro | Gly | Leu | Ala | Gln | Gly | Val | His | Ala | Pro | Ser | Thr | Cys | Ser | Tyr | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 705 | | | | | | | | | | | 710 | | | | | | | | | | | 715 | |
| Met | Glu | Ala | Thr | Ala | Ser | Ser | Arg | Ala | Arg | Ile | Ser | Arg | Ser | Ile | Ser | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 725 | | | | | | | | | | | 730 | | | | | | | | | | | 735 | |
| Leu | Gly | Asp | Ser | Glu | Gly | Pro | Ile | Val | Ala | Thr | Leu | Ala | Gln | Pro | Leu | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 740 | | | | | | | | | | | 745 | | | | | | | | | | | 750 | |
| Arg | Arg | Pro | Ser | Ser | Val | Gly | Glu | Leu | Ala | Ser | Leu | Gly | Gln | Glu | Leu | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 755 | | | | | | | | | | | 760 | | | | | | | | | | | 765 | |
| Gln | Ala | Ile | Thr | Thr | Ala | Thr | Thr | Pro | Ser | Leu | Asp | Ser | Glu | Gly | Gln | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 770 | | | | | | | | | | | 775 | | | | | | | | | | | 780 | |
| Glu | Pro | Ala | Leu | Arg | Ser | Trp | Gly | Asn | His | Glu | Ala | Arg | Ala | Asn | Leu | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 785 | | | | | | | | | | | 790 | | | | | | | | | | | 795 | |
| Arg | Leu | Thr | Leu | Ser | Ser | Ala | Cys | Asp | Gly | Leu | Leu | Gln | Pro | Pro | Val | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 805 | | | | | | | | | | | 810 | | | | | | | | | | | 815 | |
| Asp | Thr | Gln | Pro | Gly | Val | Thr | Val | Pro | Ala | Val | Ser | Phe | Pro | Ala | Pro | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 820 | | | | | | | | | | | 825 | | | | | | | | | | | 830 | |
| Ser | Pro | Val | Glu | Glu | Ser | Ala | Leu | Arg | Leu | His | Gly | Ser | Ala | Phe | Arg | | | | | | | | | | | | | | | | | | |

```

      835              840              845
Pro Ser Leu Pro Ala Pro Glu Ser Pro Gly Leu Pro Ala His Pro Ser
850              855              860
Asn Pro Gln Leu Pro Glu Ala Arg Pro Gly Ile Pro Gly Gly Thr Ala
865              870              875              880
Ser Leu Leu Glu Pro Thr Ser Gly Trp Gly Thr Ser Cys Thr Gly Cys
885              890              895
Arg Pro Pro Ser Lys Lys Pro Ser Thr Phe Thr Val Cys Trp Ser Pro
900              905              910
Val Ala Arg Trp Thr Pro Gly Ser Ser Arg His Gly Leu Ser Trp Ser
915              920              925
Pro Pro Ser Cys Gly Ser Thr Ala Ser Trp Arg Leu Asn Ala Trp Trp
930              935              940
Gly Leu Val Trp Pro Gln Pro Arg Leu Cys Pro Ala Gln Asp Pro Arg
945              950              955              960
Pro His Arg Arg Cys Thr Pro Trp Pro Ala Gln Thr Cys Arg Pro Cys
965              970              975
Trp Asn Thr Thr Arg Ser Cys Trp Cys Arg Pro Cys Gly Gly Arg His
980              985              990
Gly Gly Thr Glu Gly Ala Ala Pro Pro Pro Gln Pro Cys Cys Phe
995              1000              1005

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<210> 4579

<211> 321

<212> DNA

<213> Homo sapiens

<400> 4579

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accaactgca tgaagcagca cttgctggag attgaccacc ggcagcagca gcagcacaca
180
aatgacaaga agcggagtgg cccccccagg caggatacgt atgtgtccac acctagtga
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gaagagatgc tgaagacacc n
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<210> 4580

<211> 107

<212> PRT

<213> Homo sapiens

<400> 4580

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Xaa Lys Met Phe Gly His Ser Glu Ile Ile Thr Ser Met Lys Phe Thr
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Tyr Asp Cys His His Leu Ile Thr Val Ser Gly Asp Ser Cys Val Phe
20              25              30
Ile Trp His Leu Gly Pro Glu Ile Thr Asn Cys Met Lys Gln His Leu
35              40              45
Leu Glu Ile Asp His Arg Gln Gln Gln Gln His Thr Asn Asp Lys Lys

```

| | | | | | |
|---|-----|-----|----|----|--|
| 50 | | 55 | | 60 | |
| Arg Ser Gly Pro Pro Arg Gln Asp Thr Tyr Val Ser Thr Pro Ser Glu | | | | | |
| 65 | 70 | 75 | 80 | | |
| Ile His Ser Leu Ser Pro Gly Glu Gln Thr Glu Asp Asp Leu Glu Glu | | | | | |
| | 85 | 90 | 95 | | |
| Glu Cys Glu Pro Glu Glu Met Leu Lys Thr Pro | | | | | |
| | 100 | 105 | | | |

<210> 4581

<211> 1396

<212> DNA

<213> Homo sapiens

<400> 4581

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120
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180
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240
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360
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480
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1080
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1140
gggggtcaac cctccgtcag ctctgatgtg cagtcggtgt tcaaggggaa gacatacaac
1200

```

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 1260
 gacatgggct actgggagag cctcctgcag cagcttcgtg cccacatggc gcgggcccgg
 1320
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 1380
 ggctgtggaga gctagc
 1396

<210> 4582

<211> 354

<212> PRT

<213> Homo sapiens

<400> 4582

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 20 25 30
 Glu Leu Met Lys Ala Phe Glu Thr Pro Glu Glu Lys Arg Ala Arg Arg
 35 40 45
 Leu Ala Lys Lys Glu Ala Lys Glu Arg Lys Lys Arg Glu Lys Met Gly
 50 55 60
 Trp Gly Glu Glu Tyr Met Gly Tyr Thr Asn Thr Asp Asn Pro Phe Gly
 65 70 75 80
 Asp Asn Asn Leu Leu Gly Thr Phe Ile Trp Asn Lys Ala Leu Glu Lys
 85 90 95
 Lys Gly Ile Ser His Leu Glu Glu Lys Glu Leu Lys Glu Arg Asn Lys
 100 105 110
 Arg Ile Gln Glu Asp Asn Arg Leu Glu Leu Gln Lys Val Lys Gln Leu
 115 120 125
 Arg Leu Glu Arg Glu Arg Glu Lys Ala Met Arg Glu Gln Glu Leu Glu
 130 135 140
 Met Leu Gln Arg Val Lys Gly Thr Glu His Phe Lys Thr Trp Glu Glu
 145 150 155 160
 Gln Glu Asp Asn Phe His Leu Gln Gln Ala Lys Leu Arg Ser Lys Ile
 165 170 175
 Arg Ile Arg Asp Gly Arg Ala Lys Pro Ile Asp Leu Leu Ala Lys Tyr
 180 185 190
 Ile Ser Ala Glu Asp Asp Asp Leu Ala Gly Glu Met His Glu Pro Tyr
 195 200 205
 Thr Phe Leu Asn Gly Leu Thr Val Ala Asp Met Glu Asp Leu Leu Glu
 210 215 220
 Asp Ile Gln Val Tyr Met Glu Leu Glu Gln Gly Lys Asn Ala Asp Phe
 225 230 235 240
 Trp Arg Asp Met Thr Thr Ile Thr Glu Asp Glu Ile Ser Lys Leu Arg
 245 250 255
 Lys Leu Glu Ala Ser Gly Lys Gly Pro Gly Glu Arg Arg Glu Gly Val
 260 265 270
 Asn Ala Ser Val Ser Ser Asp Val Gln Ser Val Phe Lys Gly Lys Thr
 275 280 285
 Tyr Asn Gln Leu Gln Val Ile Phe Gln Gly Ile Glu Gly Lys Ile Arg
 290 295 300
 Ala Gly Gly Pro Asn Leu Asp Met Gly Tyr Trp Glu Ser Leu Leu Gln

```

305          310          315          320
Gln Leu Arg Ala His Met Ala Arg Ala Arg Leu Arg Glu Arg His Gln
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Glu Ser

```

```

<210> 4583
<211> 3350
<212> DNA
<213> Homo sapiens

```

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120
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180
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540
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1200

```

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<210> 4584

<211> 923

<212> PRT

<213> Homo sapiens

<400> 4584

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| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
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| Trp | Leu | Gly | Glu | Leu | Gln | Arg | Ser | Val | His | Ala | Trp | Glu | Ile | Ser | Asp |
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| Gln | Leu | Leu | Gln | Ile | Arg | Gln | Asp | Val | Glu | Ser | Cys | Tyr | Phe | Ala | Ala |
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| Gln | Thr | Met | Lys | Met | Lys | Ile | Gln | Thr | Ser | Phe | Tyr | Glu | Leu | Pro | Thr |
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| Leu | Lys | Asp | Leu | Ser | Pro | Val | Ile | Val | Thr | Gln | Leu | Ala | Leu | Ala | Ile |
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| Glu | Ile | Leu | Thr | Val | Leu | Pro | Glu | Glu | Val | His | Ser | Arg | Ser | Leu | Arg |
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| Ile | Gly | Ala | Asn | Arg | Arg | Thr | Glu | Ile | Ile | Glu | Asp | Leu | Ala | Phe | Tyr |
| | | | | 165 | | | 170 | | | | | | | 175 | |
| Ser | Ser | Thr | Val | Val | Ser | Leu | Leu | Met | Thr | Cys | Val | Glu | Lys | Ala | Gly |
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| Thr | Asp | Glu | Lys | Met | Leu | Met | Lys | Val | Phe | Arg | Cys | Leu | Gly | Ser | Trp |
| | | | | 195 | | | 200 | | | | | 205 | | | |
| Phe | Asn | Leu | Gly | Val | Leu | Asp | Ser | Asn | Phe | Met | Ala | Asn | Asn | Lys | Leu |
| | | | | 210 | | | 215 | | | | | 220 | | | |
| Leu | Ala | Leu | Leu | Phe | Glu | Val | Leu | Gln | Gln | Asp | Lys | Thr | Ser | Ser | Asn |

| | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| 225 | 230 | | | | | | | | | | 235 | | | | | 240 | | | | |
| Leu | His | Glu | Ala | Ala | Ser | Asp | Cys | Val | Cys | Ser | Ala | Leu | Tyr | Ala | Ile | | | | | |
| 245 | | | | | | | | | | | | | | | | | | | | |
| Glu | Asn | Val | Glu | Thr | Asn | Leu | Pro | Leu | Ala | Met | Gln | Leu | Phe | Gln | Gly | | | | | |
| 250 | | | | | | | | | | | | | | | | | | | | |
| Val | Leu | Thr | Leu | Glu | Thr | Ala | Tyr | His | Met | Ala | Val | Ala | Arg | Glu | Asp | | | | | |
| 255 | | | | | | | | | | | | | | | | | | | | |
| Leu | Asp | Lys | Val | Leu | Asn | Tyr | Cys | Arg | Ile | Phe | Thr | Glu | Leu | Cys | Glu | | | | | |
| 260 | | | | | | | | | | | | | | | | | | | | |
| Thr | Phe | Leu | Glu | Lys | Ile | Val | Cys | Thr | Pro | Gly | Gln | Gly | Leu | Gly | Asn | | | | | |
| 265 | | | | | | | | | | | | | | | | | | | | |
| Leu | Arg | Thr | Leu | Glu | Leu | Leu | Leu | Ile | Cys | Ala | Gly | His | Pro | Gln | Tyr | | | | | |
| 270 | | | | | | | | | | | | | | | | | | | | |
| Glu | Val | Val | Glu | Ile | Ser | Phe | Asn | Phe | Trp | Tyr | Arg | Leu | Gly | Glu | His | | | | | |
| 275 | | | | | | | | | | | | | | | | | | | | |
| Leu | Tyr | Lys | Thr | Asn | Asp | Glu | Val | Ile | His | Gly | Ile | Phe | Lys | Ala | Tyr | | | | | |
| 280 | | | | | | | | | | | | | | | | | | | | |
| Ile | Gln | Arg | Leu | Leu | His | Ala | Leu | Ala | Arg | His | Cys | Gln | Leu | Glu | Pro | | | | | |
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| 295 | | | | | | | | | | | | | | | | | | | | |
| Met | Glu | Cys | Phe | Ala | Gln | Leu | Tyr | Ser | Thr | Leu | Lys | Glu | Gly | Asn | Pro | | | | | |
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| Pro | Trp | Glu | Val | Thr | Glu | Ala | Val | Leu | Phe | Ile | Met | Ala | Ala | Ile | Ala | | | | | |
| 305 | | | | | | | | | | | | | | | | | | | | |
| Lys | Ser | Val | Asp | Pro | Glu | Asn | Asn | Pro | Thr | Leu | Val | Glu | Val | Leu | Glu | | | | | |
| 310 | | | | | | | | | | | | | | | | | | | | |
| Gly | Val | Val | Arg | Leu | Pro | Glu | Thr | Val | His | Thr | Ala | Val | Arg | Tyr | Thr | | | | | |
| 315 | | | | | | | | | | | | | | | | | | | | |
| Ser | Ile | Glu | Leu | Val | Gly | Glu | Met | Ser | Glu | Val | Val | Asp | Arg | Asn | Pro | | | | | |
| 320 | | | | | | | | | | | | | | | | | | | | |
| Gln | Phe | Leu | Asp | Pro | Val | Leu | Gly | Tyr | Leu | Met | Lys | Gly | Leu | Cys | Glu | | | | | |
| 325 | | | | | | | | | | | | | | | | | | | | |
| Lys | Pro | Leu | Ala | Ser | Ala | Ala | Ala | Lys | Ala | Ile | His | Asn | Ile | Cys | Ser | | | | | |
| 330 | | | | | | | | | | | | | | | | | | | | |
| Val | Cys | Arg | Asp | His | Met | Ala | Gln | His | Phe | Asn | Gly | Leu | Leu | Glu | Ile | | | | | |
| 335 | | | | | | | | | | | | | | | | | | | | |
| Ala | Arg | Ser | Leu | Asp | Ser | Phe | Leu | Leu | Ser | Pro | Glu | Ala | Ala | Val | Gly | | | | | |
| 340 | | | | | | | | | | | | | | | | | | | | |
| Leu | Leu | Lys | Gly | Thr | Ala | Leu | Val | Leu | Ala | Arg | Leu | Pro | Leu | Asp | Lys | | | | | |
| 345 | | | | | | | | | | | | | | | | | | | | |
| Ile | Thr | Glu | Cys | Leu | Ser | Glu | Leu | Cys | Ser | Val | Gln | Val | Met | Ala | Leu | | | | | |
| 350 | | | | | | | | | | | | | | | | | | | | |
| Lys | Lys | Leu | Leu | Ser | Gln | Glu | Pro | Ser | Asn | Gly | Ile | Ser | Ser | Asp | Pro | | | | | |
| 355 | | | | | | | | | | | | | | | | | | | | |
| Thr | Val | Phe | Leu | Asp | Arg | Leu | Ala | Val | Ile | Phe | Arg | His | Thr | Asn | Pro | | | | | |
| 360 | | | | | | | | | | | | | | | | | | | | |
| Ile | Val | Glu | Asn | Gly | Gln | Thr | His | Pro | Cys | Gln | Lys | Val | Ile | Gln | Glu | | | | | |
| 365 | | | | | | | | | | | | | | | | | | | | |
| Ile | Trp | Pro | Val | Leu | Ser | Glu | Thr | Leu | Asn | Lys | His | Arg | Ala | Asp | Asn | | | | | |
| 370 | | | | | | | | | | | | | | | | | | | | |
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| 375 | | | | | | | | | | | | | | | | | | | | |
| Arg | Ile | Val | Glu | Arg | Cys | Cys | Arg | Cys | Leu | Arg | Phe | Ala | Val | Arg | Cys | | | | | |
| 380 | | | | | | | | | | | | | | | | | | | | |
| Arg | Ile | Val | Glu | Arg | Cys | Cys | Arg | Cys | Leu | Arg | Phe | Ala | Val | Arg | Cys | | | | | |
| 385 | | | | | | | | | | | | | | | | | | | | |
| Arg | Ile | Val | Glu | Arg | Cys | Cys | Arg | Cys | Leu | Arg | Phe | Ala | Val | Arg | Cys | | | | | |
| 390 | | | | | | | | | | | | | | | | | | | | |
| Arg | Ile | Val | Glu | Arg | Cys | Cys | Arg | Cys | Leu | Arg | Phe | Ala | Val | Arg | Cys | | | | | |
| 395 | | | | | | | | | | | | | | | | | | | | |
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| 400 | | | | | | | | | | | | | | | | | | | | |
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```

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Ser Ile Leu Val Asp Glu Tyr Gly Met Glu Glu Gly Cys Arg Gln Gly
705                710                715                720
Leu Leu Asp Met Leu Gln Ala Leu Cys Ile Pro Thr Phe Gln Leu Leu
        725                730                735
Glu Gln Gln Asn Gly Leu Gln Asn His Pro Asp Thr Val Asp Asp Leu
        740                745                750
Phe Arg Leu Ala Thr Arg Phe Ile Gln Arg Ser Pro Val Thr Leu Leu
        755                760                765
Arg Ser Gln Val Val Ile Pro Ile Leu Gln Trp Ala Ile Ala Ser Thr
        770                775                780
Thr Leu Asp His Arg Asp Ala Asn Cys Ser Val Met Arg Phe Leu Arg
785                790                795                800
Asp Leu Ile His Thr Gly Val Ala Asn Asp His Glu Glu Asp Phe Glu
        805                810                815
Leu Arg Lys Glu Leu Ile Gly Gln Val Met Asn Gln Leu Gly Gln Gln
        820                825                830
Leu Val Ser Gln Leu Leu His Thr Cys Cys Phe Cys Leu Pro Pro Tyr
        835                840                845
Thr Leu Pro Asp Val Ala Glu Val Leu Trp Glu Ile Met Gln Val Asp
        850                855                860
Arg Pro Thr Phe Cys Arg Trp Leu Glu Asn Ser Leu Lys Gly Leu Pro
865                870                875                880
Lys Glu Thr Thr Val Gly Ala Val Thr Val Thr His Lys Gln Leu Thr
        885                890                895
Asp Phe His Lys Gln Val Thr Ser Ala Glu Glu Cys Lys Gln Val Cys
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<210> 4585

<211> 1952

<212> DNA

<213> Homo sapiens

<400> 4585

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<210> 4586

<211> 530

<212> PRT

<213> Homo sapiens

<400> 4586

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 35          40          45
Ile Leu Asp Leu Ser Glu Ser Gly Leu Cys Arg Leu Glu Glu Val Phe
 50          55          60
Arg Ile Pro Ser Leu Gln Gln Leu His Leu Gln Arg Asn Ala Leu Cys
 65          70          75          80
Val Ile Pro Gln Asp Phe Phe Gln Leu Leu Pro Asn Leu Thr Trp Leu
 85          90          95
Asp Leu Arg Tyr Asn Arg Ile Lys Ala Leu Pro Ser Gly Ile Gly Ala
100          105          110
His Gln His Leu Lys Thr Leu Leu Leu Glu Arg Asn Pro Ile Lys Met
115          120          125
Leu Pro Val Glu Leu Gly Ser Val Thr Thr Leu Lys Ala Leu Asn Leu
130          135          140
Arg His Cys Pro Leu Glu Phe Pro Pro Gln Leu Val Val Gln Lys Gly
145          150          155          160
Leu Val Ala Ile Gln Arg Phe Leu Arg Met Trp Ala Val Glu His Ser
165          170          175
Leu Pro Arg Asn Pro Thr Ser Gln Glu Ala Pro Pro Val Arg Glu Met
180          185          190
Thr Leu Arg Asp Leu Pro Ser Pro Gly Leu Glu Leu Ser Gly Asp His
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Ala Ser Asn Gln Gly Ala Val Asn Ala Gln Asp Pro Glu Gly Ala Val
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225          230          235          240
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Glu Glu Ile Arg Arg Phe Trp Lys Leu Arg Gln Glu Ile Val Glu His
260          265          270
Val Lys Ala Asp Val Leu Gly Asp Gln Leu Leu Thr Arg Glu Leu Pro
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Pro Asn Leu Lys Ala Ala Leu Asn Ile Glu Lys Glu Leu Pro Lys Pro
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Arg His Val Phe Arg Arg Lys Thr Ala Ser Ser Arg Ser Ile Leu Pro
305          310          315          320
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Glu Ser Arg Ala Ala Leu Arg Glu Leu Gln Glu Lys Gln Ala Leu
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Met Glu Gln Gln Arg Arg Glu Lys Arg Ala Leu Gln Glu Trp Arg Glu
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Gln Glu Arg Asn Leu Glu Glu Lys Ile Lys Gln His Val Leu Gln Met
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Arg Glu Glu Arg Arg Phe His Gly Gln Ala Pro Leu Glu Glu Met Arg
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Lys Ala Ala Glu Asp Leu Glu Ile Ala Thr Glu Leu Gln Asp Glu Val
          465          470          475
Leu Lys Leu Lys Leu Gly Leu Thr Leu Asn Lys Asp Arg Arg Arg Ala
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Ala Leu Thr Gly Asn Leu Ser Leu Gly Leu Pro Ala Ala Gln Pro Gln
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Tyr Gln
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<210> 4587

<211> 1723

<212> DNA

<213> Homo sapiens

<400> 4587

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<210> 4588

<211> 328

<212> PRT

<213> Homo sapiens

<400> 4588

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| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Ser | Lys | Lys | Asn | Gln | Pro | Pro | Ser | Lys | Ala | Pro | Lys | Leu | His | Ser | Glu |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Pro | Ser | Lys | Lys | Gly | Glu | Thr | Pro | Thr | Val | Asp | Gly | Thr | Trp | Lys | Thr |
| | | | 35 | | | | | 40 | | | | 45 | | | |
| Pro | Ser | Phe | Pro | Lys | Lys | Lys | Thr | Ala | Ala | Ser | Ser | Asn | Gly | Ser | Gly |
| | | | 50 | | | | 55 | | | | 60 | | | | |
| Gln | Pro | Leu | Asp | Lys | Lys | Ala | Ala | Val | Ser | Trp | Leu | Thr | Pro | Ala | Pro |
| | | | | | | 70 | | | | 75 | | | | 80 | |
| Ser | Lys | Lys | Ala | Asp | Ser | Val | Ala | Ala | Lys | Val | Asp | Leu | Leu | Gly | Glu |
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4080

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<210> 4594

<211> 1145

<212> PRT

<213> Homo sapiens

<400> 4594

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 35 40 45
 Thr Val Thr Ser Lys Val Ala Pro Ser Trp Pro Glu Ser His Ser Ser
 50 55 60
 Ala Asp Ser Ala Ser Leu Ala Lys Lys Lys Pro Leu Phe Ile Thr Thr
 65 70 75 80
 Asp Ser Ser Lys Leu Val Ser Gly Val Leu Gly Ser Ala Leu Thr Ser
 85 90 95
 Gly Gly Pro Ser Leu Ser Ala Met Gly Asn Gly Arg Ser Ser Ser Pro
 100 105 110
 Thr Ser Ser Leu Thr Gln Pro Ile Glu Met Pro Thr Leu Ser Ser Ser
 115 120 125
 Pro Thr Glu Glu Arg Pro Thr Val Gly Pro Gly Gln Gln Asp Asn Pro
 130 135 140
 Leu Leu Lys Thr Phe Ser Asn Val Phe Gly Arg His Ser Gly Gly Phe
 145 150 155 160
 Leu Ser Ser Pro Ala Asp Phe Ser Gln Glu Asn Lys Ala Pro Phe Glu
 165 170 175
 Ala Val Lys Arg Phe Ser Leu Asp Glu Arg Ser Leu Ala Cys Arg Gln

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 180 | | | | | | | | | | 185 | | | | | | | | | | 190 | | | | | | | | | | | | | | | |
| Asp | Ser | Asp | Ser | Ser | Thr | Asn | Ser | Asp | Leu | Ser | Asp | Leu | Ser | Asp | Ser | Asp | Ser | Asp | Ser | Asp | Leu | Ser | Asp | Ser | Asp | Leu | Ser | Asp | Ser | Asp | Leu | Ser | Asp | Ser | |
| | | 195 | | | | | | 200 | | | | | | | | | | | | | | 205 | | | | | | | | | | | | | |
| Glu | Glu | Gln | Leu | Gln | Ala | Lys | Thr | Gly | Leu | Lys | Gly | Ile | Pro | Glu | His | | | | | Glu | Gln | Leu | Ser | Asp | Ser | Asp | Leu | Ser | Asp | Ser | Asp | Leu | Ser | | |
| | | 210 | | | | | 215 | | | | | | | | | | | | | | | 220 | | | | | | | | | | | | | |
| Leu | Met | Gly | Lys | Leu | Gly | Pro | Asn | Gly | Glu | Arg | Ser | Ala | Glu | Leu | Leu | | | | | Leu | Met | Gly | Lys | Leu | Gly | Pro | Asn | Gly | Glu | Arg | Ser | Ala | Glu | Leu | Leu |
| | | 225 | | | | | 230 | | | | | | | | | | | | | | | 235 | | | | | | | | | | | | | |
| Leu | Gly | Lys | Ser | Lys | Gly | Lys | Gln | Ala | Pro | Lys | Gly | Arg | Pro | Arg | Thr | | | | | Leu | Gly | Lys | Ser | Lys | Gly | Lys | Gln | Ala | Pro | Lys | Gly | Arg | Pro | Arg | Thr |
| | | | | | 245 | | | | | | | | | | | | | | | | | 250 | | | | | | | | | | | | | |
| Ala | Pro | Leu | Lys | Val | Gly | Gln | Ser | Val | Leu | Lys | Asp | Val | Ser | Lys | Val | | | | | Ala | Pro | Leu | Lys | Val | Gly | Gln | Ser | Val | Leu | Lys | Asp | Val | Ser | Lys | Val |
| | | | | | 260 | | | | | | | | | | | | | | | | | 265 | | | | | | | | | | | | | |
| Lys | Lys | Leu | Lys | Gln | Ser | Gly | Glu | Pro | Phe | Leu | Gln | Asp | Gly | Ser | Cys | | | | | Lys | Lys | Leu | Lys | Gln | Ser | Gly | Glu | Pro | Phe | Leu | Gln | Asp | Gly | Ser | Cys |
| | | | | | 275 | | | | | | | | | | | | | | | | | 280 | | | | | | | | | | | | | |
| Ile | Asn | Val | Ala | Pro | His | Leu | His | Lys | Cys | Arg | Glu | Cys | Arg | Leu | Glu | | | | | Ile | Asn | Val | Ala | Pro | His | Leu | His | Lys | Cys | Arg | Glu | Cys | Arg | Leu | Glu |
| | | | | | 290 | | | | | | | | | | | | | | | | | 295 | | | | | | | | | | | | | |
| Arg | Tyr | Arg | Lys | Phe | Lys | Glu | Gln | Glu | Gln | Asp | Asp | Ser | Thr | Val | Ala | | | | | Arg | Tyr | Arg | Lys | Phe | Lys | Glu | Gln | Glu | Gln | Asp | Asp | Ser | Thr | Val | Ala |
| | | | | | 305 | | | | | | | | | | | | | | | | | 310 | | | | | | | | | | | | | |
| Cys | Arg | Phe | Phe | His | Phe | Arg | Arg | Leu | Ile | Phe | Thr | Arg | Lys | Gly | Val | | | | | Cys | Arg | Phe | Phe | His | Phe | Arg | Arg | Leu | Ile | Phe | Thr | Arg | Lys | Gly | Val |
| | | | | | 325 | | | | | | | | | | | | | | | | | 330 | | | | | | | | | | | | | |
| Leu | Arg | Val | Glu | Gly | Phe | Leu | Ser | Pro | Gln | Gln | Ser | Asp | Pro | Asp | Ala | | | | | Leu | Arg | Val | Glu | Gly | Phe | Leu | Ser | Pro | Gln | Gln | Ser | Asp | Pro | Asp | Ala |
| | | | | | 340 | | | | | | | | | | | | | | | | | 345 | | | | | | | | | | | | | |
| Met | Asn | Leu | Trp | Ile | Pro | Ser | Ser | Ser | Leu | Ala | Glu | Gly | Ile | Asp | Leu | | | | | Met | Asn | Leu | Trp | Ile | Pro | Ser | Ser | Ser | Leu | Ala | Glu | Gly | Ile | Asp | Leu |
| | | | | | 355 | | | | | | | | | | | | | | | | | 360 | | | | | | | | | | | | | |
| Glu | Thr | Ser | Lys | Tyr | Ile | Leu | Ala | Asn | Val | Gly | Asp | Gln | Phe | Cys | Gln | | | | | Glu | Thr | Ser | Lys | Tyr | Ile | Leu | Ala | Asn | Val | Gly | Asp | Gln | Phe | Cys | Gln |
| | | | | | 370 | | | | | | | | | | | | | | | | | 375 | | | | | | | | | | | | | |
| Leu | Val | Met | Ser | Glu | Lys | Glu | Ala | Met | Met | Met | Val | Glu | Pro | His | Gln | | | | | Leu | Val | Met | Ser | Glu | Lys | Glu | Ala | Met | Met | Met | Val | Glu | Pro | His | Gln |
| | | | | | 385 | | | | | | | | | | | | | | | | | 390 | | | | | | | | | | | | | |
| Lys | Val | Ala | Trp | Lys | Arg | Ala | Val | Arg | Gly | Val | Arg | Glu | Met | Cys | Asp | | | | | Lys | Val | Ala | Trp | Lys | Arg | Ala | Val | Arg | Gly | Val | Arg | Glu | Met | Cys | Asp |
| | | | | | 405 | | | | | | | | | | | | | | | | | 410 | | | | | | | | | | | | | |
| Val | Cys | Glu | Thr | Thr | Leu | Phe | Asn | Ile | His | Trp | Val | Cys | Arg | Lys | Cys | | | | | Val | Cys | Glu | Thr | Thr | Leu | Phe | Asn | Ile | His | Trp | Val | Cys | Arg | Lys | Cys |
| | | | | | 420 | | | | | | | | | | | | | | | | | 425 | | | | | | | | | | | | | |
| Gly | Phe | Gly | Val | Cys | Leu | Asp | Cys | Tyr | Arg | Leu | Arg | Lys | Ser | Arg | Pro | | | | | Gly | Phe | Gly | Val | Cys | Leu | Asp | Cys | Tyr | Arg | Leu | Arg | Lys | Ser | Arg | Pro |
| | | | | | 435 | | | | | | | | | | | | | | | | | 440 | | | | | | | | | | | | | |
| Arg | Ser | Glu | Thr | Glu | Glu | Met | Gly | Asp | Glu | Glu | Val | Phe | Ser | Trp | Leu | | | | | Arg | Ser | Glu | Thr | Glu | Glu | Met | Gly | Asp | Glu | Glu | Val | Phe | Ser | Trp | Leu |
| | | | | | 450 | | | | | | | | | | | | | | | | | 455 | | | | | | | | | | | | | |
| Lys | Cys | Ala | Lys | Gly | Gln | Ser | His | Glu | Pro | Glu | Asn | Leu | Met | Pro | Thr | | | | | Lys | Cys | Ala | Lys | Gly | Gln | Ser | His | Glu | Pro | Glu | Asn | Leu | Met | Pro | Thr |
| | | | | | 465 | | | | | | | | | | | | | | | | | 470 | | | | | | | | | | | | | |
| Gln | Ile | Ile | Pro | Gly | Thr | Ala | Leu | Tyr | Asn | Ile | Gly | Asp | Met | Val | His | | | | | Gln | Ile | Ile | Pro | Gly | Thr | Ala | Leu | Tyr | Asn | Ile | Gly | Asp | Met | Val | His |
| | | | | | 485 | | | | | | | | | | | | | | | | | 490 | | | | | | | | | | | | | |
| Ala | Ala | Arg | Gly | Lys | Trp | Gly | Ile | Lys | Ala | Asn | Cys | Pro | Cys | Ile | Ser | | | | | Ala | Ala | Arg | Gly | Lys | Trp | Gly | Ile | Lys | Ala | Asn | Cys | Pro | Cys | Ile | Ser |
| | | | | | 500 | | | | | | | | | | | | | | | | | 505 | | | | | | | | | | | | | |
| Arg | Gln | Asn | Lys | Ser | Val | Leu | Arg | Pro | Ala | Val | Thr | Asn | Gly | Met | Ser | | | | | Arg | Gln | Asn | Lys | Ser | Val | Leu | Arg | Pro | Ala | Val | Thr | Asn | Gly | Met | Ser |
| | | | | | 515 | | | | | | | | | | | | | | | | | 520 | | | | | | | | | | | | | |
| Gln | Leu | Pro | Ser | Ile | Asn | Pro | Ser | Ala | Ser | Ser | Gly | Asn | Glu | Thr | Thr | | | | | Gln | Leu | Pro | Ser | Ile | Asn | Pro | Ser | Ala | Ser | Ser | Gly | Asn | Glu | Thr | Thr |
| | | | | | 530 | | | | | | | | | | | | | | | | | 535 | | | | | | | | | | | | | |
| Phe | Ser | Gly | Gly | Gly | Gly | Pro | Ala | Pro | Val | Thr | Thr | Pro | Glu | Pro | Asp | | | | | Phe | Ser | Gly | Gly | Gly | Gly | Pro | Ala | Pro | Val | Thr | Thr | Pro | Glu | Pro | Asp |
| | | | | | 545 | | | | | | | | | | | | | | | | | 550 | | | | | | | | | | | | | |
| His | Val | Pro | Lys | Ala | Asp | Ser | Thr | Asp | Ile | Arg | Ser | Glu | Glu | Pro | Leu | | | | | His | Val | Pro | Lys | Ala | Asp | Ser | Thr | Asp | Ile | Arg | Ser | Glu | Glu | Pro | Leu |
| | | | | | 565 | | | | | | | | | | | | | | | | | 570 | | | | | | | | | | | | | |
| Lys | Thr | Asp | Ser | Ser | Ala | Ser | Asn | Ser | Asn | Ser | Glu | Leu | Lys | Ala | Ile | | | | | Lys | Thr | Asp | Ser | Ser | Ala | Ser | Asn | Ser | Asn | Ser | Glu | Leu | Lys | Ala | Ile |
| | | | | | 580 | | | | | | | | | | | | | | | | | 585 | | | | | | | | | | | | | |
| Arg | Pro | Pro | Cys | Pro | Asp | Thr | Ala | Pro | Pro | Ser | Ser | Ala | Leu | His | Trp | | | | | Arg | Pro | Pro | Cys | Pro | Asp | Thr | Ala | Pro | Pro | Ser | Ser | Ala | Leu | His | Trp |
| | | | | | 595 | | | | | | | | | | | | | | | | | 600 | | | | | | | | | | | | | |
| Leu | Ala | Asp | Leu | Ala | Thr | Gln | Lys | Ala | Lys | Glu | Glu | Thr | Lys | Glu | Ala | | | | | Leu | Ala | Asp | Leu | Ala | Thr | Gln | Lys | Ala | Lys | Glu | Glu | Thr | Lys | Glu | Ala |

3795

| | | | | | |
|---|---------------------------------|--|------|--|------|
| | 1045 | | 1050 | | 1055 |
| Ile Val Gln Phe Leu Gly Asp Ala | Val Phe Ile Pro Ala Gly Ala Pro | | | | |
| | 1060 | | 1065 | | 1070 |
| His Gln Val His Asn Leu Tyr Ser Cys | Ile Lys Val Ala Glu Asp Phe | | | | |
| | 1075 | | 1080 | | 1085 |
| Val Ser Pro Glu His Val Lys His Cys Phe | Arg Leu Thr Gln Glu Phe | | | | |
| | 1090 | | 1095 | | 1100 |
| Arg His Leu Ser Asn Thr His Thr Asn His | Glu Asp Lys Leu Gln Val | | | | |
| | 1105 | | 1110 | | 1115 |
| Lys Asn Ile Ile Tyr His Ala Val Lys Asp | Ala Val Gly Thr Leu Lys | | | | |
| | 1125 | | 1130 | | 1135 |
| Ala His Glu Ser Lys Leu Ala Arg Ser | | | | | |
| | 1140 | | 1145 | | |

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<211> 935

<212> DNA

<213> Homo sapiens

<400> 4595

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 300
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 360
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 660
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 720
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 780
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 840
 ctggaccctg ggcggccenn tgcgcgagcg ccggcgcccc tcaggcctcc cgctgacctt
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<210> 4596

<211> 169
 <212> PRT
 <213> Homo sapiens

<400> 4596
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 35 40 45
 Gly Arg Glu Ala Ala Leu Pro Gly Pro Ala Gly Asp Xaa Ala Val Lys
 50 55 60
 Gly Pro Ala Asp Pro Ala Ala Gln His Ser Arg Asp Gly Gln Gly Gly
 65 70 75 80
 Trp Pro Pro Ala Gln Gly Thr Ala Ser Thr Ala Gly Lys Ser Gly Ala
 85 90 95
 Pro Gly Ala Trp Ser Val Gly Gly Ala Thr Gly Pro Arg Gly Ala Lys
 100 105 110
 Gly Pro Arg Thr Gly Arg Pro Ala Pro Ser Pro Gly Ser Pro Pro Arg
 115 120 125
 Glu Ser Arg Cys Leu Ala Pro Gly Pro Ser Arg Leu Asp Pro Gly Pro
 130 135 140
 Ala Xaa Ala Ala Ala Pro Gly Ala Leu Arg Pro Pro Ala Asp Pro Ser
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 Gln Ala Arg Pro Arg Arg Gly Ser Asn
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<210> 4597
 <211> 515
 <212> DNA
 <213> Homo sapiens

<400> 4597
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 360
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<210> 4598

<211> 135
 <212> PRT
 <213> Homo sapiens

<400> 4598
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 Pro Gly Pro Trp Gly Val Gly Arg Gly Thr Cys Leu Thr Ala Gln Leu
 35 40 45
 Leu Leu Ser Ala Pro Phe Cys Leu Leu Pro Ala Leu Ser Gln Ala Val
 50 55 60
 Ser Pro Arg Asn Ser Leu Arg Asn Ile Leu Thr Leu Asn Ser Thr Ala
 65 70 75 80
 Glu Pro Ser Ser Trp Glu Ser Arg Glu Arg Pro Leu Gln Ser Arg Asn
 85 90 95
 Val Tyr Ser Ser Ala Ser Phe Ser Glu His Leu Asp Gly Gly Cys Ser
 100 105 110
 Pro Leu Val Leu Gln Ser Leu Ala Arg Arg Ile Ser Ser Thr Trp Leu
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 Val Asp Gln Ser Leu Arg Glu
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<210> 4599
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 <212> DNA
 <213> Homo sapiens

<400> 4599
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 720

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2220
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2314

<210> 4600
 <211> 228
 <212> PRT
 <213> Homo sapiens

<400> 4600
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 35 40 45
 Phe Arg Met Glu Ser Gly Ile Glu Pro Ser Val Asp Leu Glu Thr Leu
 50 55 60
 Asp Glu Arg Ile Lys Ile Arg Glu Met Ile Leu Lys Gly Gln Ile Gln
 65 70 75 80
 Glu Ala Ile Ala Leu Ile Asn Ser Leu His Pro Glu Leu Leu Asp Thr
 85 90 95
 Asn Arg Tyr Leu Tyr Phe His Leu Gln Gln His Leu Ile Glu Leu
 100 105 110
 Ile Arg Gln Arg Glu Thr Glu Ala Ala Leu Glu Phe Ala Gln Thr Gln
 115 120 125
 Leu Ala Glu Gln Gly Glu Glu Ser Arg Glu Cys Leu Thr Glu Met Glu
 130 135 140
 Arg Thr Leu Ala Leu Leu Ala Phe Asp Ser Pro Glu Glu Ser Pro Phe
 145 150 155 160
 Gly Asp Leu Leu His Thr Met Gln Arg Gln Lys Val Trp Ser Glu Val
 165 170 175
 Asn Gln Ala Val Leu Asp Tyr Glu Asn Arg Glu Ser Thr Pro Lys Leu
 180 185 190
 Ala Lys Leu Leu Lys Leu Leu Trp Ala Gln Asn Glu Leu Asp Gln
 195 200 205
 Lys Lys Val Lys Tyr Pro Lys Met Thr Asp Leu Ser Lys Gly Val Ile
 210 215 220
 Glu Glu Pro Lys
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<210> 4601
 <211> 916
 <212> DNA
 <213> Homo sapiens

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<212> PRT

<213> Homo sapiens

<400> 4602

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 Gly Leu Ser Lys Glu Thr Val Leu Ser Ser Trp Ile Ala Lys Tyr Asp
 85 90 95
 Ala Ile Tyr Arg Gly Glu Glu Asp Leu Cys Lys Gln Pro Asn Arg Met
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 Ala Leu Ser Ala Val Ser Glu Leu Ile Leu Ser Lys Glu Gln Leu Tyr
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 Glu Met Phe Gln Gln Ile Leu Gly Ile Lys Lys Leu Glu His Gln Leu
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 Leu Tyr Asn Ala Cys Gln Leu Asp Asn Ala Asp Glu Gln Ala Ala Gln
 145 150 155 160
 Ile Arg Arg Glu Leu Asp Gly Arg Leu Gln Leu Ala Asp Lys Met Ala
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 Lys Glu Arg Lys Phe Pro Lys Phe Ile Ala Lys Asp Met Glu Asn Met
 180 185 190
 Tyr Ile Glu Glu Leu Arg Ser Ser Val Asn Leu Leu Met Ala Asn Leu

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| 180 | cagagcctgg | ccagcctgct | gagtgaagca | gagagtcctc | aggaagctgg ccgcgggcac |
| 240 | ccctctcttc | tgccccagca | gaaggaaatca | tctgaggcca | gtgagctcat cctctactct |
| 300 | ctggaggcag | aagtgcagct | cacaggggaca | gacagccagt | attgcaggaa ggagggtggag |
| 360 | gcccggcctg | gagaccagca | gggcgactcc | tacctcaggg | tgtcctccga cagcccaaag |
| 420 | gaccagagcc | gcctcgagga | ctcggggggg | tcagaggcgc | acctggagtg cagcttcgca |
| 480 | gccatccact | ccccagctcc | gcctcctgac | cctgccctcc | ggtttgcac gtcgctgcc |
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| 600 | gtccccagca | gctccctacc | ccagactccg | gagcaggaga | agttctctcc ccaccacttt |
| 660 | gagacactga | ctgagtcctc | ctgcagagct | ctgggagacg | tggaggcctc tgaagctgaa |
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| 780 | gcattccaggt | tcaccataac | cttccctccc | cgggcaaccc | agtgccttgt gaagtctcaa |
| 840 | gaggtcaagc | tcatggaccg | aggcggaagc | cagcccagag | caggtactgg ctacgcctcc |
| 900 | ccagacagga | cccacgtcct | cgctgcaggg | aaggctgaag | agaccctgga ggcctggcgc |
| 960 | ccaccacctc | cctgccttac | gagcctggcg | tcctgtgtcc | ctgcttctcc cgtgtctgcc |

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<210> 4604

<211> 666

<212> PRT

<213> Homo sapiens

<400> 4604

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 35 40 45
 Glu Ser Glu Ser Pro Gln Glu Ala Gly Arg Gly His Pro Ser Phe Leu
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 Pro Gln Gln Lys Glu Ser Ser Glu Ala Ser Glu Leu Ile Leu Tyr Ser

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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| Lys | Glu | Val | Glu | Ala | Gly | Pro | Gly | Asp | Gln | Gln | Gly | Asp | Ser | Tyr |
| | | | | | | | | | | | | | | 110 |
| Arg | Val | Ser | Ser | Asp | Ser | Pro | Lys | Asp | Gln | Ser | Pro | Pro | Glu | Asp |
| | | | | | | | | | | | | | | 125 |
| Gly | Glu | Ser | Glu | Ala | Asp | Leu | Glu | Cys | Ser | Phe | Ala | Ala | Ile | His |
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| Pro | Ala | Pro | Pro | Pro | Asp | Pro | Ala | Pro | Arg | Phe | Ala | Thr | Ser | Leu |
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| His | Phe | Pro | Gly | Cys | Ala | Gly | Pro | Thr | Glu | Asp | Glu | Leu | Ser | Leu |
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| Glu | Gly | Pro | Ser | Val | Pro | Ser | Ser | Ser | Leu | Pro | Gln | Thr | Pro | Glu |
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| Glu | Lys | Phe | Leu | Arg | His | His | Phe | Glu | Thr | Leu | Thr | Glu | Ser | Pro |
| | | | | | | | | | | | | | | 205 |
| Arg | Ala | Leu | Gly | Asp | Val | Glu | Ala | Ser | Glu | Ala | Glu | Asp | His | Phe |
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| Asn | Pro | Arg | Leu | Ser | Ile | Ser | Thr | Gln | Phe | Leu | Ser | Ser | Leu | Gln |
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| Ala | Ser | Arg | Phe | Thr | His | Thr | Phe | Pro | Pro | Arg | Ala | Thr | Gln | Cys |
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| Arg | Ala | Gly | Thr | Gly | Tyr | Ala | Ser | Pro | Asp | Arg | Thr | His | Val | Leu |
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| Cys | Leu | Thr | Ser | Leu | Ala | Ser | Cys | Val | Pro | Ala | Ser | Ser | Val | Leu |
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| Thr | Asp | Arg | Asn | Leu | Pro | Thr | Pro | Thr | Ser | Ala | Pro | Thr | Pro | Gly |
| | | | | | | | | | | | | | | 335 |
| Ala | Gln | Gly | Val | His | Ala | Pro | Ser | Thr | Cys | Ser | Tyr | Met | Glu | Ala |
| | | | | | | | | | | | | | | 350 |
| Ala | Ser | Ser | Arg | Ala | Arg | Ile | Ser | Arg | Ser | Ile | Ser | Leu | Gly | Asp |
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| Glu | Gly | Pro | Ile | Val | Ala | Thr | Leu | Ala | Gln | Pro | Leu | Arg | Arg | Pro |
| | | | | | | | | | | | | | | 380 |
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| Thr | Ala | Thr | Thr | Pro | Ser | Leu | Asp | Ser | Glu | Gly | Gln | Glu | Pro | Ala |
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| | | | | | | | | | | | | | | 430 |
| Ser | Ser | Ala | Cys | Asp | Gly | Leu | Leu | Leu | Pro | Pro | Val | Asp | Thr | Gln |
| | | | | | | | | | | | | | | 445 |
| Gly | Val | Thr | Val | Pro | Ala | Val | Ser | Phe | Pro | Ala | Pro | Ser | Pro | Val |
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| Glu | Ser | Ala | Leu | Arg | Leu | His | Gly | Ser | Ala | Phe | Arg | Pro | Ser | Leu |
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| Ala | Pro | Glu | Ser | Pro | Gly | Leu | Pro | Ala | His | Pro | Ser | Asn | Pro | Gln |
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545          550          555          560
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Gln Pro Arg Leu Cys Pro Ala Gln Asp Pro Arg Pro His Arg Arg Cys
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Thr Pro Trp Pro Ala Gln Thr Cys Arg Pro Cys Trp Asn Thr Thr Arg
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<210> 4605

<211> 2998

<212> DNA

<213> Homo sapiens

<400> 4605

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<210> 4606

<211> 584

<212> PRT

<213> Homo sapiens

<400> 4606

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 Asp Ser Gly Gly Arg Thr Lys Arg Tyr Val Val Phe Asn Asn Gly Thr
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 Leu Tyr Phe Asn Glu Val Gly Met Arg Glu Glu Gly Asp Tyr Thr Cys
 65 70 75 80
 Phe Ala Glu Asn Gln Val Gly Lys Asp Glu Met Arg Val Arg Val Lys
 85 90 95
 Val Val Thr Ala Pro Ala Thr Ile Arg Asn Lys Thr Cys Leu Ala Val
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 Gln Val Pro Tyr Gly Asp Val Val Thr Val Ala Cys Glu Ala Lys Gly
 115 120 125
 Glu Pro Met Pro Lys Val Thr Trp Leu Ser Pro Thr Asn Lys Val Ile
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 Ile Gln Lys Ala Gln Arg Ser Asp Ser Gly Asn Tyr Thr Cys Leu Val
 165 170 175
 Arg Asn Ser Ala Gly Glu Asp Arg Lys Thr Val Trp Ile His Val Asn
 180 185 190
 Val Gln Pro Pro Lys Ile Asn Gly Asn Pro Asn Pro Ile Thr Thr Val
 195 200 205
 Arg Glu Ile Ala Ala Gly Gly Ser Arg Lys Leu Ile Asp Cys Lys Ala

210 215 220
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 225 230 235 240
 Val Leu Pro Ala Pro Tyr Tyr Gly Asn Arg Ile Thr Val His Gly Asn
 245 250 255
 Gly Ser Leu Asp Ile Arg Ser Leu Arg Lys Ser Asp Ser Val Gln Leu
 260 265 270
 Val Cys Met Ala Arg Asn Glu Gly Gly Glu Ala Arg Leu Ile Leu Gln
 275 280 285
 Leu Thr Val Leu Glu Pro Met Glu Lys Pro Ile Phe His Asp Pro Ile
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 Ser Glu Lys Ile Thr Ala Met Ala Gly His Thr Ile Ser Leu Asn Cys
 305 310 315 320
 Ser Ala Ala Gly Thr Pro Thr Pro Ser Leu Val Trp Val Leu Pro Asn
 325 330 335
 Gly Thr Asp Leu Gln Ser Gly Gln Gln Leu Gln Arg Phe Tyr His Lys
 340 345 350
 Ala Asp Gly Met Leu His Ile Ser Gly Leu Ser Ser Val Asp Ala Gly
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 Ala Tyr Arg Cys Val Ala Arg Asn Ala Ala Gly His Thr Glu Arg Leu
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 Val Ser Leu Lys Val Gly Leu Lys Pro Glu Ala Asn Lys Gln Tyr His
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 Asn Leu Val Ser Ile Ile Asn Gly Glu Thr Leu Lys Leu Pro Cys Thr
 405 410 415
 Pro Pro Gly Ala Gly Gln Gly Arg Phe Ser Trp Thr Leu Pro Asn Gly
 420 425 430
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 435 440 445
 Asn Gly Thr Leu Thr Val Arg Glu Ala Ser Val Phe Asp Arg Gly Thr
 450 455 460
 Tyr Val Cys Arg Met Glu Thr Glu Tyr Gly Pro Ser Val Thr Ser Ile
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 485 490 495
 Pro Val Ile Tyr Thr Arg Pro Gly Asn Thr Val Lys Leu Asn Cys Met
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 Ala Met Gly Ile Pro Lys Ala Asp Ile Thr Trp Glu Leu Pro Asp Lys
 515 520 525
 Ser His Leu Lys Ala Gly Val Gln Ala Arg Leu Tyr Gly Asn Arg Phe
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 Leu His Pro Gln Gly Ser Leu Thr Ile Gln His Ala Thr Gln Arg Asp
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<211> 456

<212> DNA

<213> Homo sapiens

<400> 4607

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<212> PRT

<213> Homo sapiens

<400> 4608

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| Cys | Asn | Cys | Arg | Gln | Glu | Met | Arg | Thr | Thr | Gln | Leu | Gly | Pro | Gly | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Gln | Met | Thr | Gln | Glu | Val | Val | Cys | Asp | Glu | Cys | Pro | Asn | Val | Lys |
| | | | 35 | | | | | 40 | | | | 45 | | | |
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| | | | 50 | | | 55 | | | | | 60 | | | | |
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| Asp | Gly | Xaa | Pro | Gly | Asp | Leu | Arg | Phe | Arg | Ile | Lys | Val | Val | Lys | His |
| | | | | 85 | | | | | 90 | | | | | 95 | |
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<210> 4610

<211> 250

<212> PRT

<213> Homo sapiens

<400> 4610

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| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Pro | Gln | Pro | Pro | Gly | Ala | Ala | Arg | Trp | Ala | Glu | Val | Met | Ala | Arg | Phe |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Ala | Arg | Leu | Gly | Ala | Gln | Gly | Arg | Arg | Val | Val | Leu | Val | Thr | Ser |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Gly | Gly | Thr | Lys | Val | Pro | Leu | Glu | Ala | Arg | Pro | Val | Arg | Phe | Leu | Asp |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Asn | Phe | Ser | Ser | Gly | Arg | Arg | Gly | Ala | Thr | Ser | Ala | Glu | Ala | Phe | Leu |
| 65 | | | | 70 | | | | 75 | | | | 80 | | | |
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| | | | 85 | | | | | 90 | | | | | 95 | | |
| Pro | Tyr | Ala | His | Arg | Phe | Pro | Pro | Gln | Thr | Trp | Leu | Ser | Ala | Leu | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Pro | Ser | Gly | Pro | Ala | Leu | Ser | Gly | Leu | Leu | Ser | Leu | Glu | Ala | Glu | Glu |
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| Asn | Ala | Leu | Pro | Gly | Phe | Ala | Glu | Ala | Leu | Arg | Ser | Tyr | Gln | Glu | Ala |
| | | 130 | | | | 135 | | | | 140 | | | | | |
| Ala | Ala | Ala | Gly | Thr | Phe | Leu | Ala | Val | Glu | Phe | Thr | Thr | Leu | Ala | Asp |
| 145 | | | | 150 | | | | | 155 | | | | 160 | | |
| Tyr | Leu | His | Leu | Leu | Gln | Ala | Ala | Gln | Ala | Leu | Asn | Pro | Leu | Gly | |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Pro | Ser | Ala | Met | Phe | Tyr | Leu | Ala | Ala | Val | Ser | Asp | Phe | Tyr | Val | |
| | | | 180 | | | | | 185 | | | | 190 | | | |
| Pro | Val | Ser | Glu | Met | Pro | Glu | His | Lys | Ile | Gln | Ser | Ser | Gly | Gly | Pro |

| | | |
|-------------------------|---------------------|---------------------|
| 195 | 200 | 205 |
| Leu Gln Gly Lys Val Gln | Leu Glu Asp Ile Leu | His His Leu Glu Lys |
| 210 | 215 | 220 |
| Glu Glu Ile Asn Pro Leu | Ala Thr Thr Glu Glu | Gln Leu Cys Leu Val |
| 225 | 230 | 235 |
| Leu Ile Pro Ala Ser Thr | Val Lys Thr Gly | |
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<210> 4611

<211> 1946

<212> DNA

<213> Homo sapiens

<400> 4611

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<210> 4612

<211> 532

<212> PRT

<213> Homo sapiens

<400> 4612

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 50 55 60
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 65 70 75 80
 Ala Leu Leu Arg Arg Leu Arg Gly Pro Arg Val Gln Glu His Glu Asp
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 Ser Gly Asp Ser Glu Val Glu Asn Glu Ala Lys Gly Asn Phe Pro Pro
 100 105 110
 Gln Lys Lys Pro Val Trp Val Asp Glu Glu Asp Glu Asp Glu Met Met
 115 120 125
 Val Asp Met Met Asn Asn Arg Phe Arg Lys Asp Met Met Lys Asn Ala
 130 135 140
 Ser Glu Ser Lys Leu Ser Lys Asp Asn Leu Lys Lys Arg Leu Lys Glu
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 Glu Phe Gln His Ala Met Gly Gly Val Pro Ala Trp Ala Glu Thr Thr

165 170 175
 Lys Arg Lys Thr Ser Ser Asp Asp Glu Ser Glu Glu Asp Glu Asp Asp
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 195 200 205
 Arg Gly Ile Leu Lys Met Lys Asn Cys Gln His Ala Asn Ala Glu Arg
 210 215 220
 Pro Thr Val Ala Arg Ile Ser Ser Val Gln Phe His Pro Gly Ala Gln
 225 230 235 240
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 Asp Gly Lys Thr Asn Pro Lys Ile Gln Ser Ile Tyr Leu Glu Arg Phe
 260 265 270
 Pro Ile Phe Lys Ala Cys Phe Ser Ala Asn Gly Glu Glu Val Leu Ala
 275 280 285
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 Lys Leu Ile Pro Val His Gln Val Arg Gly Leu Lys Glu Lys Ile Val
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 325 330 335
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 Gly Ser Met Lys Ile Asn Gly Arg Val Ala Ala Ser Thr Phe Ser Ser
 355 360 365
 Asp Ser Lys Lys Val Tyr Ala Ser Ser Gly Asp Gly Glu Val Tyr Val
 370 375 380
 Trp Asp Val Asn Ser Arg Lys Cys Leu Asn Arg Phe Val Asp Glu Gly
 385 390 395 400
 Ser Leu Tyr Gly Leu Ser Ile Ala Thr Ser Arg Asn Gly Gln Tyr Val
 405 410 415
 Ala Cys Gly Ser Asn Cys Gly Val Val Asn Ile Tyr Asn Gln Asp Ser
 420 425 430
 Cys Leu Gln Glu Thr Asn Pro Lys Pro Ile Lys Ala Ile Met Asn Leu
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 Val Thr Gly Val Thr Ser Leu Thr Phe Asn Pro Thr Thr Glu Ile Leu
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 Ala Ile Ala Ser Glu Lys Met Lys Glu Ala Val Arg Leu Val His Leu
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 Pro Ser Cys Thr Val Phe Ser Asn Phe Pro Val Ile Lys Asn Lys Asn
 485 490 495
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<210> 4613

<211> 454

<212> DNA

<213> Homo sapiens

<400> 4613

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<210> 4614

<211> 117

<212> PRT

<213> Homo sapiens

<400> 4614

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| Met | Pro | Arg | Pro | Asn | Leu | Pro | Leu | Ser | Pro | Arg | Gly | Pro | Thr | Pro | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Val | Thr | Cys | Leu | Ala | Pro | Thr | Ser | Asn | Glu | Phe | Thr | Arg | Gly | Asn |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Phe | Thr | Asn | Gly | Asn | Leu | Thr | Met | Ser | Asn | Glu | Phe | His | Cys | Lys |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Asp | Phe | Leu | Ile | Phe | Thr | Thr | Gln | Ile | Leu | Thr | Ile | Leu | Gln | Leu | Arg |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Ser | Leu | Asn | Ile | Ile | Tyr | Asn | Lys | Gln | Asn | Leu | Val | Asn | Leu | Gln | Lys |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Ser | Asn | Ala | Leu | Lys | Lys | His | Gln | Ser | Leu | Cys | Met | Cys | Arg | Thr | Asp |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Pro | Ala | Pro | Gln | Gly | Asn | Thr | Ala | Gly | Thr | Val | Pro | Arg | Thr | Leu | Thr |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Ser | Val | Ser | Leu | Leu | | | | | | | | | | | |
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<210> 4615

<211> 1350

<212> DNA

<213> Homo sapiens

<400> 4615

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 180
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 240

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<210> 4616

<211> 188

<212> PRT

<213> Homo sapiens

<400> 4616

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 35 40 45
 Phe Thr Ala Glu Lys Leu Ser Val Asp Glu Val Ser Gln Leu Val Ile
 50 55 60
 Ser Pro Leu Cys Gly Ala Ile Ser Leu Phe Val Gly Thr Thr Arg Asn

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | 70 | | 75 | | 80 | | | | | | | | | |
| Asn | Phe | Glu | Gly | Lys | Lys | Val | Ile | Ser | Leu | Glu | Tyr | Glu | Ala | Tyr | Leu |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Pro | Met | Ala | Glu | Asn | Glu | Val | Arg | Lys | Ile | Cys | Ser | Asp | Ile | Arg | Gln |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Lys | Trp | Pro | Val | Lys | His | Ile | Ala | Val | Phe | His | Leu | Leu | Gly | Leu | Val |
| | | | 115 | | | | 120 | | | | | | | 125 | |
| Pro | Val | Ser | Glu | Ala | Ser | Thr | Val | Ile | Ala | Val | Ser | Ser | Ala | His | Arg |
| | | | 130 | | | | 135 | | | | | | | 140 | |
| Ala | Ala | Ser | Leu | Glu | Ala | Val | Ser | Tyr | Ala | Ile | Asp | Ser | Leu | Lys | Ala |
| | | | 145 | | | | 150 | | | | | | | 155 | |
| Lys | Val | Pro | Ile | Trp | Lys | Lys | Glu | Ile | Tyr | Glu | Glu | Ser | Ser | Thr | Trp |
| | | | 165 | | | | | | | | | | | 175 | |
| Lys | Gly | Asn | Lys | Glu | Cys | Phe | Trp | Ala | Ser | Asn | Ser | | | | |
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<210> 4617

<211> 2266

<212> DNA

<213> Homo sapiens

<400> 4617

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<210> 4618

<211> 197

<212> PRT

<213> Homo sapiens

<400> 4618

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5

10

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Asp Pro Thr Ala Ala Ala Ala Ala Leu Asn Gly Gly His Cys Leu Ala

<400> 4620

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Leu Gln Ala Arg Pro Asn Pro Arg Phe Pro Gly Arg Cys Thr Pro Gly
 35          40          45
Trp Glu Lys Leu Thr Asn Glu Ser Ser Trp Gln Pro Pro Gln Ala Pro
 50          55          60
Pro Asp Trp Ala Ser Trp Leu Cys Cys Gln Asp Tyr Asp Pro Leu Pro
 65          70          75          80
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Tyr Leu Asn Gln Glu Val Pro
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<210> 4621

<211> 2588

<212> DNA

<213> Homo sapiens

<400> 4621

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960

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2340
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2400
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2588

<210> 4622
<211> 403
<212> PRT
<213> Homo sapiens

<400> 4622
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35 40 45
Ala Arg Ile Thr Ile Ser Glu Gly Ser Cys Pro Glu Arg Ile Thr Thr
50 55 60
Ile Thr Gly Ser Thr Ala Ala Val Phe His Ala Val Ser Met Ile Ala
65 70 75 80
Phe Lys Leu Asp Glu Asp Leu Cys Ala Ala Pro Ala Asn Gly Gly Asn
85 90 95
Val Ser Arg Pro Pro Val Thr Leu Arg Leu Val Ile Pro Ala Ser Gln
100 105 110
Cys Gly Ser Leu Ile Gly Lys Ala Gly Thr Lys Ile Lys Glu Ile Arg
115 120 125
Glu Thr Thr Gly Ala Gln Val Gln Val Ala Gly Asp Leu Leu Pro Asn
130 135 140
Ser Thr Glu Arg Ala Val Thr Val Ser Gly Val Pro Asp Ala Ile Ile
145 150 155 160
Leu Cys Val Arg Gln Ile Cys Ala Val Ile Leu Glu Ser Pro Pro Lys
165 170 175
Gly Ala Thr Ile Pro Tyr His Pro Ser Leu Ser Leu Gly Thr Val Leu
180 185 190
Leu Ser Ala Asn Gln Gly Phe Ser Val Gln Gly Gln Tyr Gly Ala Val
195 200 205
Thr Pro Ala Glu Val Thr Lys Leu Gln Gln Leu Ser Ser His Ala Val
210 215 220
Pro Phe Ala Thr Pro Ser Val Val Pro Gly Leu Asp Pro Gly Thr Gln
225 230 235 240
Thr Ser Ser Gln Glu Phe Leu Val Pro Asn Asp Leu Ile Gly Cys Val
245 250 255
Ile Gly Arg Gln Gly Ser Lys Ile Ser Glu Ile Arg Gln Met Ser Gly
260 265 270
Ala His Ile Lys Ile Gly Asn Gln Ala Glu Gly Ala Gly Glu Arg His
275 280 285
Val Thr Ile Thr Gly Ser Pro Val Ser Ile Ala Leu Ala Gln Tyr Leu
290 295 300
Ile Thr Ala Cys Leu Glu Thr Ala Lys Ser Thr Ser Gly Gly Thr Pro
305 310 315 320
Gly Ser Ala Pro Ala Asp Leu Pro Thr Pro Phe Ser Pro Pro Leu Thr
325 330 335
Ala Leu Pro Thr Ala Pro Pro Gly Leu Leu Gly Thr Pro Tyr Ala Ile
340 345 350
Ser Leu Ser Asn Phe Ile Gly Leu Lys Pro Val Pro Phe Leu Ala Leu

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 355 | | | | | 360 | | | | | | 365 | | | |
| Pro | Pro | Ala | Ser | Pro | Gly | Pro | Pro | Pro | Gly | Leu | Ala | Ala | Tyr | Thr | Ala |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Lys | Met | Ala | Ala | Ala | Asn | Gly | Ser | Lys | Lys | Ala | Glu | Arg | Gln | Lys | Phe |
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| Ser | Pro | Tyr | | | | | | | | | | | | | |

<210> 4623

<211> 2220

<212> DNA

<213> Homo sapiens

<400> 4623

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720
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840
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1200

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 1980
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 2100
 gaatgaggaa cggagaatcg caagctcctt ttccttcctt ttcctttccc ctgtcataga
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<210> 4624

<211> 189

<212> PRT

<213> Homo sapiens

<400> 4624

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| Met | Lys | Ser | Lys | Lys | Lys | Val | Glu | Gln | Pro | Val | Ile | Glu | Glu | Pro | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Lys | Arg | Lys | Lys | Lys | Lys | Lys | Arg | Lys | Glu | Ser | Gly | Val | Ala | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Pro | Trp | Lys | Glu | Glu | Thr | Asp | Thr | Asp | Leu | Glu | Val | Val | Leu | Glu |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Lys | Lys | Gly | Asn | Met | Asp | Glu | Ala | His | Ile | Asp | Gln | Val | Arg | Arg | Lys |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Ala | Leu | Gln | Glu | Glu | Ile | Asp | Arg | Glu | Ser | Gly | Lys | Thr | Glu | Ala | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Glu | Thr | Arg | Lys | Trp | Thr | Gly | Thr | Gln | Phe | Gly | Gln | Trp | Asp | Thr | Ala |
| | | | | 85 | | | | | 90 | | | | 95 | | |
| Gly | Phe | Glu | Asn | Glu | Asp | Gln | Lys | Leu | Lys | Phe | Leu | Arg | Leu | Met | Gly |

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          100              105              110
Gly Phe Lys Asn Leu Ser Pro Ser Phe Ser Arg Pro Ala Ser Thr Ile
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Ala Arg Pro Asn Met Ala Leu Gly Lys Lys Ala Ala Asp Ser Leu Gln
          130              135              140
Gln Asn Leu Gln Arg Asp Tyr Asp Arg Ala Met Ser Trp Lys Tyr Ser
          145              150              155              160
Arg Gly Ala Gly Leu Gly Phe Ser Thr Ala Pro Asn Lys Ile Phe Tyr
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Ile Asp Arg Asn Ala Ser Lys Ser Val Lys Leu Glu Asp
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<210> 4625

<211> 334

<212> DNA

<213> Homo sapiens

<400> 4625

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240
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334

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<210> 4626

<211> 111

<212> PRT

<213> Homo sapiens

<400> 4626

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20          25          30
Glu Gln Glu Tyr Lys Arg Lys Gln Leu Glu Glu Gln Arg Gln Ser Glu
35          40          45
Arg Leu Gln Arg Gln Leu Gln Glu His Ala Tyr Leu Lys Ser Leu
50          55          60
Gln Gln Gln Gln Gln Gln Gln Gln Leu Gln Lys Gln Gln Gln Gln Gln
65          70          75          80
Leu Leu Pro Gly Asp Arg Lys Pro Leu Tyr His Tyr Gly Arg Gly Met
85          90          95
Asn Pro Ala Asp Lys Pro Ala Trp Ala Arg Glu Gly Glu Glu Arg
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<210> 4627

<211> 1736

<212> DNA

<213> Homo sapiens

<400> 4627

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120
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180
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240
gatgtgggtg ttcaacatgt tcattttgat ggacttgaa ggactaaaga tgatatcatc
300
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360
catgaagccc gtgaaaaaatt gctccgtctt ggaattttta gacaagtggga tgttttgatt
420
gacacatgct aagggtgatgg cgcacttcca aatgggttag acgttacctt tgaagtaact
480
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540
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<210> 4628

<211> 469

<212> PRT

<213> Homo sapiens

<400> 4628

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 Pro Glu Ala Lys Gln Glu Ile Leu Glu Asn Lys Asp Val Val Val Gln
 35 40 45
 His Val His Phe Asp Gly Leu Gly Arg Thr Lys Asp Asp Ile Ile Ile
 50 55 60
 Cys Glu Ile Gly Asp Val Phe Lys Ala Lys Asn Leu Ile Glu Val Met
 65 70 75 80
 Arg Lys Ser His Glu Ala Arg Glu Lys Leu Leu Arg Leu Gly Ile Phe
 85 90 95
 Arg Gln Val Asp Val Leu Ile Asp Thr Cys Gln Gly Asp Gly Ala Leu
 100 105 110
 Pro Asn Gly Leu Asp Val Thr Phe Glu Val Thr Glu Leu Arg Arg Leu
 115 120 125
 Thr Gly Ser Tyr Asn Thr Met Val Gly Asn Asn Glu Gly Ser Met Val
 130 135 140
 Leu Gly Leu Lys Leu Pro Asn Leu Leu Gly Arg Ala Glu Lys Val Thr
 145 150 155 160
 Phe Gln Phe Ser Tyr Gly Thr Lys Glu Thr Ser Tyr Gly Leu Ser Phe
 165 170 175
 Phe Lys Pro Arg Pro Gly Asn Phe Glu Arg Asn Phe Ser Val Asn Leu
 180 185 190
 Tyr Lys Val Thr Gly Gln Phe Pro Trp Ser Ser Leu Arg Glu Thr Asp
 195 200 205
 Arg Gly Met Ser Ala Glu Tyr Ser Phe Pro Ile Trp Lys Thr Ser His
 210 215 220
 Thr Val Lys Trp Glu Gly Val Trp Arg Glu Leu Gly Cys Leu Ser Arg
 225 230 235 240
 Thr Ala Ser Phe Ala Val Arg Lys Glu Ser Gly His Ser Leu Lys Ser
 245 250 255
 Ser Leu Ser His Ala Met Val Ile Asp Ser Arg Asn Ser Ser Ile Leu
 260 265 270
 Pro Arg Arg Gly Ala Leu Leu Lys Val Asn Gln Glu Leu Ala Gly Tyr
 275 280 285
 Thr Gly Gly Asp Val Ser Phe Ile Lys Glu Asp Phe Glu Leu Gln Leu
 290 295 300
 Asn Lys Gln Leu Ile Phe Asp Ser Val Phe Ser Ala Ser Phe Trp Gly

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305          310          315          320
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          325          330          335
Phe Tyr Leu Gly Gly Pro Thr Ser Val Arg Gly Phe Ser Met His Ser
          340          345          350
Ile Gly Pro Gln Ser Glu Gly Asp Tyr Leu Gly Gly Glu Ala Tyr Trp
          355          360          365
Ala Gly Gly Leu His Leu Tyr Thr Pro Leu Pro Phe Arg Pro Gly Gln
          370          375          380
Gly Gly Phe Gly Glu Leu Phe Arg Thr His Phe Phe Leu Asn Ala Gly
385          390          395          400
Asn Leu Cys Asn Leu Asn Tyr Gly Glu Gly Pro Lys Ala His Ile Arg
          405          410          415
Lys Leu Ala Glu Cys Ile Arg Trp Ser Tyr Gly Ala Gly Ile Val Leu
          420          425          430
Arg Leu Gly Asn Ile Ala Arg Leu Glu Leu Asn Tyr Cys Val Pro Met
          435          440          445
Gly Val Gln Thr Gly Asp Arg Ile Cys Asp Gly Val Gln Phe Gly Ala
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<210> 4629
<211> 706
<212> DNA
<213> Homo sapiens

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<400> 4629
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706

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<210> 4630

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<211> 140
 <212> PRT
 <213> Homo sapiens

<400> 4630
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 35 40 45
 Ser Trp Ala Leu Arg Val Ser Val Phe Pro Gln Ile Gly Lys Met Arg
 50 55 60
 Gly Arg Gly Gly Tyr Trp Gly Gln Ala Ser Ala Gln Pro Trp Val Leu
 65 70 75 80
 Leu Glu Pro Gly Leu Glu Pro Glu Val Gly Arg Val Ser Lys Leu Ser
 85 90 95
 Ser Trp Ile Pro Ile Cys Arg Thr Ala Pro Arg Thr Arg Ser Gly Val
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 Arg Ala His Pro Leu Ala Arg Ile Leu Gly Ser Leu Gly His Lys Ala
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<210> 4631
 <211> 2756
 <212> DNA
 <213> Homo sapiens

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<210> 4632

<211> 372

<212> PRT

<213> Homo sapiens

<400> 4632

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| Met | Ala | Ala | Glu | Arg | Gln | Glu | Ala | Leu | Arg | Glu | Phe | Val | Ala | Val | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gly | Ala | Glu | Glu | Asp | Arg | Ala | Arg | Phe | Phe | Leu | Glu | Ser | Ala | Gly | Trp |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Asp | Leu | Gln | Ile | Ala | Leu | Ala | Ser | Phe | Tyr | Glu | Asp | Gly | Gly | Asp | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asp | Ile | Val | Thr | Ile | Ser | Gln | Ala | Thr | Pro | Ser | Ser | Val | Ser | Arg | Gly |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Thr | Ala | Pro | Ser | Asp | Asn | Arg | Val | Thr | Ser | Phe | Arg | Asp | Leu | Ile | His |
| 65 | | | | 70 | | | | | | 75 | | | | 80 | |
| Asp | Gln | Asp | Glu | Asp | Glu | Glu | Glu | Glu | Gly | Gln | Arg | Ser | Arg | Phe | |
| | | | 85 | | | | 90 | | | | | | 95 | | |
| Tyr | Ala | Gly | Gly | Ser | Glu | Arg | Ser | Gly | Gln | Gln | Ile | Val | Gly | Pro | Pro |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Arg | Lys | Lys | Ser | Pro | Asn | Glu | Leu | Val | Asp | Asp | Leu | Phe | Lys | Gly | Ala |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Lys | Glu | His | Gly | Ala | Val | Ala | Val | Glu | Arg | Val | Thr | Lys | Ser | Pro | Gly |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Glu | Thr | Ser | Lys | Pro | Arg | Pro | Phe | Ala | Gly | Gly | Gly | Tyr | Arg | Leu | Gly |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Ala | Ala | Pro | Glu | Glu | Glu | Ser | Ala | Tyr | Val | Ala | Gly | Glu | Lys | Arg | Gln |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| His | Ser | Ser | Gln | Asp | Val | His | Val | Val | Leu | Lys | Leu | Trp | Lys | Ser | Gly |
| | | 180 | | | | | 185 | | | | | 190 | | | |
| Phe | Ser | Leu | Asp | Asn | Gly | Glu | Leu | Arg | Ser | Tyr | Gln | Asp | Pro | Ser | Asn |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Ala | Gln | Phe | Leu | Glu | Ser | Ile | Arg | Arg | Gly | Glu | Val | Pro | Ala | Glu | Leu |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Arg | Arg | Leu | Ala | His | Gly | Gly | Gln | Val | Asn | Leu | Asp | Met | Glu | Asp | His |
| 225 | | | | 230 | | | | | | 235 | | | | 240 | |
| Arg | Asp | Glu | Asp | Phe | Val | Lys | Pro | Lys | Gly | Ala | Phe | Lys | Ala | Phe | Thr |
| | | | 245 | | | | | 250 | | | | | | 255 | |
| Gly | Glu | Gly | Gln | Lys | Leu | Gly | Ser | Thr | Ala | Pro | Gln | Val | Leu | Ser | Thr |

[illegible]

<210> 4633

<211> 873

<212> DNA

<213> Homo sapiens

<400> 4633

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| 120 | ccaggagctg | agcaagtgtc | ccagcagaag | gctggactgt | gacagggtgt | taggggtacag |
| 180 | ctgcctccag | acgctggcac | tgaggggggtc | caccgtcagg | cactcagtca | ggctgctcag |
| 240 | gagctctcttc | ttcatctcag | ggggacagct | aggggtggct | ctggacagga | aagaagggaa |
| 300 | gtagggtatgc | aggggtggaat | ccggcttttc | tccaaatgcc | agcactttca | gtcgggggta |
| 360 | gagctgacac | agctgtctct | gcaggctggg | tgctcaggga | ttgttcggca | tataggcaaaa |
| 420 | gtccagaagt | gggaagaagt | ccttggggcc | aatcatgccg | aagcccttgg | taaggttggg |
| 480 | atgcacatgc | agcagccgat | ccagggtatgt | gatggcaaa | ggagacagag | acttgatgcc |
| 540 | cagcacaggc | agcatgatcc | ccagccacac | tttcagtc | tcggtgaggt | tggcaaaacc |
| 600 | tgcttgacct | agggcccaca | tgatggtgag | acactttgtc | ggtcggtctc | ggtggggacct |
| 660 | cagcagttcc | aggaacttgc | ctaggtttgc | cgtggcaatc | ttgggcttgt | cttcgaggat |
| 720 | ggcctggata | cagatgcggt | aaccatgtag | tgactccctc | ggtgtcttat | ccagctcttg |
| 780 | caacatggtg | aacagacagt | ggggcctggg | tcaagcaggt | tttgccaacc | tcactgaggg |
| 840 | actgaaagtg | tggtctgggga | tcattgctgcc | tggtctgggg | atcaagtctc | tgcttcctct |
| 873 | tgccatcacc | cccttcacgc | ggtcggagag | agc | | |

<210> 4634

<211> 242
 <212> PRT
 <213> Homo sapiens

<400> 4634
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 35 40 45
 Pro Ala Lys Cys Leu Thr Ile Met Trp Ala Leu Gly Gln Ala Gly Phe
 50 55 60
 Ala Asn Leu Thr Glu Gly Leu Lys Val Trp Leu Gly Ile Met Leu Pro
 65 70 75 80
 Val Leu Gly Ile Lys Ser Leu Ser Pro Phe Ala Ile Thr Tyr Leu Asp
 85 90 95
 Arg Leu Leu Leu Met His Pro Asn Leu Thr Lys Gly Phe Gly Met Ile
 100 105 110
 Gly Pro Lys Asp Phe Phe Pro Leu Leu Asp Phe Ala Tyr Met Pro Asn
 115 120 125
 Asn Ser Leu Thr Pro Ser Leu Gln Glu Gln Leu Cys Gln Leu Tyr Pro
 130 135 140
 Arg Leu Lys Val Leu Ala Phe Gly Ala Lys Pro Asp Ser Thr Leu His
 145 150 155 160
 Thr Tyr Phe Pro Ser Phe Leu Ser Arg Ala Thr Pro Ser Cys Pro Pro
 165 170 175
 Glu Met Lys Lys Glu Leu Leu Ser Ser Leu Thr Glu Cys Leu Thr Val
 180 185 190
 Asp Pro Leu Ser Ala Ser Val Trp Arg Gln Leu Tyr Pro Lys His Leu
 195 200 205
 Ser Gln Ser Ser Leu Leu Leu Glu His Leu Leu Ser Ser Trp Glu Gln
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 225 230 235 240
 Lys Leu

<210> 4635
 <211> 384
 <212> DNA
 <213> Homo sapiens

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 180
 ctctcccca agatgagttt ttagcccgag gtgtttgcac actcacact gctcactccc
 240
 tcacacaaa aacctcact ctttgctttt tctggggaga gggaggccac tggcagaagc
 300

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 360
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 384

<210> 4636
 <211> 108
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Glu Pro Ala Ser Gly Gly Leu Pro Pro Pro Glu Asp Glu Phe Cys Ser
 50 55 60
 Pro Gly Val Cys Thr Leu Thr Leu Ala His Ser Leu Thr His Lys Thr
 65 70 75 80
 Leu Thr Leu Cys Phe Phe Trp Gly Glu Gly Gly His Trp Gln Lys Arg
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 Leu Pro Trp Pro Gln Ser Val Pro Ile Leu Ile Phe
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<210> 4637
 <211> 2162
 <212> DNA
 <213> Homo sapiens

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 120
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 240
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 300
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 360
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 420
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 480
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 600
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 660

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780
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2162

<210> 4638

<211> 446

<212> PRT

<213> Homo sapiens

<400> 4638

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Thr Lys Ala Gly Tyr Lys Leu Phe Ser Leu Ser Ser Val Glu Gln Leu
 35          40          45
Asp Gln Val His Gly Ser Asn Glu Ile Pro Asp Val Tyr Ile Val Glu
 50          55          60
Arg Leu Phe Ser Ser Ser Leu Val Val Val Val Ser His Thr Lys Pro
 65          70          75          80
Arg Gln Met Asn Val Tyr His Phe Lys Lys Gly Thr Glu Ile Cys Asn
      85          90          95
Tyr Ser Tyr Ser Ser Asn Ile Leu Ser Ile Arg Leu Asn Arg Gln Arg
      100          105          110
Leu Leu Val Cys Leu Glu Glu Ser Ile Tyr Ile His Asn Ile Lys Asp
      115          120          125
Met Lys Leu Leu Lys Thr Leu Leu Asp Ile Pro Ala Asn Pro Thr Gly
      130          135          140
Leu Cys Ala Leu Ser Ile Asn His Ser Asn Ser Tyr Leu Ala Tyr Pro
      145          150          155          160
Gly Ser Leu Thr Ser Gly Glu Ile Val Leu Tyr Asp Gly Asn Ser Leu
      165          170          175
Lys Thr Val Cys Thr Ile Ala Ala His Glu Gly Thr Leu Ala Ala Ile
      180          185          190
Thr Phe Asn Ala Ser Gly Ser Lys Leu Ala Ser Ala Ser Glu Lys Gly
      195          200          205
Thr Val Ile Arg Val Phe Ser Val Pro Asp Gly Gln Lys Leu Tyr Glu
      210          215          220
Phe Arg Arg Gly Met Lys Arg Tyr Val Thr Ile Ser Ser Leu Val Phe
      225          230          235          240
Ser Met Asp Ser Gln Phe Leu Cys Ala Ser Ser Asn Thr Glu Thr Val
      245          250          255
His Ile Phe Lys Leu Glu Gln Val Thr Asn Ser Arg Pro Glu Glu Pro
      260          265          270
Ser Thr Trp Ser Gly Tyr Met Gly Lys Met Phe Met Ala Ala Thr Asn
      275          280          285
Tyr Leu Pro Thr Gln Val Ser Asp Met Met His Gln Asp Arg Ala Phe
      290          295          300
Ala Thr Ala Arg Leu Asn Phe Ser Gly Gln Arg Asn Ile Cys Thr Leu
      305          310          315          320
Ser Thr Ile Gln Lys Leu Pro Arg Leu Leu Val Ala Ser Ser Ser Gly
      325          330          335
His Leu Tyr Met Tyr Asn Leu Asp Pro Gln Asp Gly Gly Glu Cys Val
      340          345          350
Leu Ile Lys Thr His Ser Leu Leu Gly Ser Gly Thr Thr Glu Glu Asn
      355          360          365
Lys Glu Asn Asp Leu Arg Pro Ser Leu Pro Gln Ser Tyr Ala Ala Thr
      370          375          380
Val Ala Arg Pro Ser Ala Ser Ser Ala Ser Thr Val Pro Gly Tyr Ser

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385              390              395              400
Glu Asp Gly Gly Ala Leu Arg Gly Glu Val Ile Pro Glu His Glu Phe
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Ala Thr Gly Pro Val Cys Leu Asp Glu Asn Glu Phe Pro Pro Ile
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Ile Leu Cys Arg Gly Asn Gln Lys Gly Lys Thr Lys Gln Ser
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<210> 4639

<211> 1007

<212> DNA

<213> Homo sapiens

<400> 4639

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720
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<210> 4640

<211> 71

<212> PRT

<213> Homo sapiens

<400> 4640

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20             25             30
Leu Arg Arg   Ser Phe Ala Leu Val Ala Gln Ala Arg Val Gln Trp Arg
35             40             45
Asp Leu Ser   Ser Leu Gln Pro Pro   Pro Arg   Leu Lys Arg Phe Ser
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His Leu Ser   Leu Pro Ser Ser
65             70

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<210> 4641

<211> 1873

<212> DNA

<213> Homo sapiens

<400> 4641

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1080

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<210> 4642

<211> 306

<212> PRT

<213> Homo sapiens

<400> 4642

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 Phe Leu Leu Asp Lys Ser Ala Glu Lys Ala Leu Gly Lys Ala Ala Ser
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 His Ile Lys Ser Ile Lys Asn Val Thr Glu Leu Lys Leu Ser Asp Asn
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 Pro Ala Trp Glu Gly Asp Lys Gly Asn Thr Lys Gly Asp Lys His Asp
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Ser Lys Pro Asp Val Ser Glu Glu Ala Pro Gly Pro Ser Lys Val Lys
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Thr Gly Lys Pro Glu Glu Ala Ser Leu Asp Ser Arg Glu Lys Lys Thr
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Ala Gly Lys Pro Pro Cys Gly Ala Thr Lys Arg Ser Ile Ala Asp Ser
          260          265          270
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<210> 4643

<211> 1125

<212> DNA

<213> Homo sapiens

<400> 4643

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780

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<210> 4644

<211> 270

<212> PRT

<213> Homo sapiens

<400> 4644

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| Gly | Ala | Arg | Val | Val | Ile | Cys | Asp | Lys | Asp | Glu | Ser | Gly | Gly | Arg | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Glu | Gln | Glu | Leu | Pro | Gly | Ala | Val | Phe | Ile | Leu | Cys | Asp | Val | Thr |
| 50 | | | | | 55 | | | | | 60 | | | | | |
| Gln | Glu | Asp | Asp | Met | Lys | Thr | Leu | Val | Ser | Glu | Thr | Ile | Arg | Arg | Phe |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Gly | Arg | Leu | Asp | Cys | Val | Val | Asn | Asn | Ala | Gly | His | His | Pro | Pro | Pro |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Gln | Arg | Pro | Glu | Glu | Thr | Ser | Ala | Gln | Gly | Phe | Arg | Gln | Leu | Leu | Glu |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Leu | Asn | Leu | Leu | Gly | Thr | Tyr | Thr | Leu | Thr | Lys | Leu | Ala | Leu | Pro | Tyr |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Leu | Arg | Lys | Ser | Gln | Gly | Asn | Val | Ile | Asn | Ile | Ser | Ser | Leu | Val | Gly |
| | | 130 | | | 135 | | | | | | 140 | | | | |
| Ala | Ile | Gly | Gln | Ala | Gln | Ala | Val | Pro | Tyr | Val | Ala | Thr | Lys | Gly | Ala |
| 145 | | | | 150 | | | | | | 155 | | | | 160 | |
| Val | Thr | Ala | Met | Thr | Lys | Ala | Leu | Ala | Leu | Asp | Glu | Ser | Pro | Tyr | Gly |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Val | Arg | Val | Asn | Cys | Ile | Ser | Pro | Gly | Asn | Ile | Trp | Thr | Pro | Leu | Trp |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Glu | Glu | Leu | Ala | Ala | Leu | Met | Pro | Asp | Pro | Arg | Ala | Thr | Ile | Arg | Glu |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Gly | Met | Leu | Ala | Gln | Pro | Leu | Gly | Arg | Met | Gly | Gln | Pro | Ala | Glu | Val |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Gly | Ala | Ala | Ala | Val | Phe | Leu | Ala | Ser | Glu | Ala | Asn | Phe | Cys | Thr | Gly |
| 225 | | | | 230 | | | | | | 235 | | | | 240 | |
| Ile | Glu | Leu | Leu | Val | Thr | Gly | Gly | Ala | Glu | Leu | Gly | Tyr | Gly | Cys | Lys |
| | | | 245 | | | | | 250 | | | | | | 255 | |
| Ala | Ser | Arg | Ser | Thr | Pro | Val | Asp | Ala | Pro | Asp | Ile | Pro | Ser | | |
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<210> 4645

<211> 1725

<212> DNA

<213> Homo sapiens

<400> 4645

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<210> 4646

<211> 358

<212> PRT

<213> Homo sapiens

<400> 4646

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 65 70 75 80
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 Phe Gly Phe Met Phe Gly Gly Thr Pro Arg Gln Gln Asp Arg Asn Ile
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 Pro Arg Gly Ser Asp Ile Ile Val Asp Leu Glu Val Thr Leu Glu Glu
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 Val Tyr Ala Gly Asn Phe Val Glu Val Val Arg Asn Lys Pro Val Ala
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 Arg Gln Ala Pro Gly Lys Arg Lys Cys Asn Cys Arg Gln Glu Met Arg
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 180 185 190
 Cys Asp Glu Cys Pro Asn Val Lys Leu Val Asn Glu Glu Arg Thr Leu
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 Glu Val Glu Ile Glu Pro Gly Val Arg Asp Gly Met Glu Tyr Pro Phe
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 Ile Gly Glu Gly Glu Pro His Val Asp Gly Glu Pro Gly Asp Leu Arg
 225 230 235 240
 Phe Arg Ile Lys Val Val Lys His Pro Ile Phe Glu Arg Arg Gly Asp
 245 250 255
 Asp Leu Tyr Thr Asn Val Thr Ile Ser Leu Val Glu Ser Leu Val Gly
 260 265 270
 Phe Glu Met Asp Ile Thr His Leu Asp Gly His Lys Val His Ile Ser
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 Arg Asp Lys Ile Thr Arg Pro Gly Ala Lys Leu Trp Lys Lys Gly Glu

| | | | | |
|-------------------------|-------------------------|---------------------|-----|-----|
| 290 | | 295 | | 300 |
| Gly Leu Pro Asn Phe Asp | Asn Asn Asn Ile Lys | Gly Ser Leu Ile Ile | | |
| 305 | 310 | 315 | 320 | |
| Thr Phe Asp Val Asp Phe | Pro Lys Glu Gln Leu Thr | Glu Glu Ala Arg | | |
| | 325 | 330 | 335 | |
| Glu Gly Ile Lys Gln Leu | Leu Lys Gln Gly Ser Val | Gln Lys Val Tyr | | |
| | 340 | 345 | 350 | |
| Asn Gly Leu Gln Gly Tyr | | | | |
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<211> 791

<212> DNA

<213> Homo sapiens

<400> 4647

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<210> 4648

<211> 188

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<213> Homo sapiens

<400> 4648

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| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| | 20 | | | | | | | 25 | | | | | | 30 | | | | | |
| Leu | Asn | Glu | Lys | Thr | Pro | Lys | Gly | Gly | His | Ser | Val | Phe | Met | Asp | Ile | Phe | | | |
| | | 35 | | | | | 40 | | | | | | 45 | | | | | | |
| Glu | Leu | Val | Val | Glu | Asn | Gly | Val | Phe | Val | Ala | Asn | Pro | Leu | Gln | Glu | | | | |
| | 50 | | | | | 55 | | | | | 60 | | | | | | | | |
| Arg | Thr | Ile | Leu | Met | Arg | Lys | Glu | Gly | Glu | Ser | Ala | Lys | Ser | Ile | Asn | | | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | | | |
| Glu | Met | Leu | Leu | Ser | Arg | Leu | Ser | Arg | Tyr | Arg | Ala | Ser | Pro | Ser | Ala | | | | |
| | | | | 85 | | | | | 90 | | | | | 95 | | | | | |
| Thr | Leu | Ala | Ala | Leu | Thr | Gly | Ser | Thr | Ile | Ser | Asn | Thr | Leu | Lys | Glu | | | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | | | |
| Asp | Gln | Ala | Ala | Asn | Thr | Ser | Cys | Gly | Leu | Pro | Leu | Lys | Met | Leu | Arg | | | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | | | |
| Lys | Thr | Pro | Ile | Tyr | Thr | Cys | Gly | Thr | Tyr | Leu | Val | Met | Leu | Val | Pro | | | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | | | |
| Pro | Pro | Gly | Gly | Ser | Gly | Ser | Ser | Ala | Thr | Arg | Ser | Leu | Phe | Gly | Gly | | | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | | | |
| Thr | Ser | Gly | Leu | Ser | Ser | Leu | Lys | Ile | Leu | Ala | Ser | Ser | Leu | Val | Tyr | | | | |
| | | | | 165 | | | | | 170 | | | | | 175 | | | | | |
| Asn | Ile | Ser | Asp | Gly | Gln | Phe | Thr | Ser | Arg | Ala | Asp | | | | | | | | |
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<210> 4649

<211> 3276

<212> DNA

<213> Homo sapiens

<400> 4649

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| 120 | gggcaggcca | ataaatggat | taagaacatg | gagaaggcga | ataaactggc |
| 180 | tctctgtata | gcaactacat | gaggatgctg | gaaaacgcgc | tgcagttagg |
| 240 | ttgattgaaa | acattggaga | agagctggat | gcttctatcg | aacctatctt |
| 300 | acattcaaac | agcaagggat | tgagtacatg | aggctgggtg | aaaacatcat |
| 360 | agggatttta | agttatacat | cacaaccctg | ttgaggaatc | cacattacct |
| 420 | gccgtgaagg | tctgtctctc | caacttcatg | atcacccctc | tgggtctcca |
| 480 | cttgccatcg | tggtcgcgaa | ggagaagcca | gagctggaag | agaaaaagaa |
| 540 | gtggaaagtg | ccaagaacaa | gaagcatctc | aaggaaattg | aagataagat |
| 600 | ctctccatgt | ccaagggtaa | catcctggag | gatgaaaccg | ccatcaaaat |
| 660 | tccaaagtgc | tatctgaaga | gatctcagag | aaacagaaaag | ttgcttccat |
| 720 | cagattgacg | agactcggat | gggctacaag | ccagtggctg | tgcatctctc |
| 780 | | | | | |

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<210> 4650

<211> 965

<212> PRT

<213> Homo sapiens

<400> 4650

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 35 40 45
 Gly Leu Gln Asp Gln Leu Leu Gly Ile Val Ala Ala Lys Glu Lys Pro
 50 55 60
 Glu Leu Glu Glu Lys Lys Asn Gln Leu Ile Val Glu Ser Ala Lys Asn
 65 70 75 80
 Lys Lys His Leu Lys Glu Ile Glu Asp Lys Ile Leu Glu Val Leu Ser
 85 90 95
 Met Ser Lys Gly Asn Ile Leu Glu Asp Glu Thr Ala Ile Lys Val Leu
 100 105 110
 Ser Ser Ser Lys Val Leu Ser Glu Glu Ile Ser Glu Lys Gln Lys Val
 115 120 125
 Ala Ser Met Thr Glu Thr Gln Ile Asp Glu Thr Arg Met Gly Tyr Lys

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130              135              140
Pro Val Ala Val His Ser Ala Thr Ile Phe Phe Cys Ile Ser Asp Leu
145              150              155              160
Ala Asn Ile Glu Pro Met Tyr Gln Tyr Ser Leu Thr Trp Phe Ile Asn
              165              170              175
Leu Tyr Met His Ser Leu Thr His Ser Thr Lys Ser Glu Glu Leu Asn
              180              185              190
Leu Arg Ile Lys Tyr Ile Ile Asp His Phe Thr Leu Ser Ile Tyr Asn
              195              200              205
Asn Val Cys Arg Ser Leu Phe Glu Lys Asp Lys Leu Leu Phe Ser Leu
              210              215              220
Leu Leu Thr Ile Gly Ile Met Lys Gln Lys Lys Glu Ile Thr Glu Glu
225              230              235              240
Val Trp Tyr Phe Leu Leu Thr Gly Gly Ile Ala Leu Asp Asn Pro Tyr
              245              250              255
Pro Asn Pro Ala Pro Gln Trp Leu Ser Glu Lys Ala Trp Ala Glu Ile
              260              265              270
Val Arg Ala Ser Ala Leu Pro Lys Leu His Gly Leu Met Glu His Leu
              275              280              285
Glu Gln Asn Leu Gly Glu Trp Lys Leu Ile Tyr Asp Ser Ala Trp Pro
              290              295              300
His Glu Glu Gln Leu Pro Gly Ser Trp Lys Phe Ser Gln Gly Leu Glu
305              310              315              320
Lys Met Val Ile Leu Arg Cys Leu Arg Pro Asp Lys Met Val Pro Ala
              325              330              335
Val Arg Glu Phe Ile Ala Glu His Met Gly Lys Leu Tyr Ile Glu Ala
              340              345              350
Pro Thr Phe Asp Leu Gln Gly Ser Tyr Asn Asp Ser Ser Cys Cys Ala
              355              360              365
Pro Leu Ile Phe Val Leu Ser Pro Ser Ala Asp Pro Met Ala Gly Leu
              370              375              380
Leu Lys Phe Ala Asp Asp Leu Gly Met Gly Gly Thr Arg Thr Gln Thr
385              390              395              400
Ile Ser Leu Gly Gln Gly Gln Gly Pro Ile Ala Ala Lys Met Ile Asn
              405              410              415
Asn Ala Ile Lys Asp Gly Thr Trp Val Val Leu Gln Asn Cys His Leu
              420              425              430
Ala Ala Ser Trp Met Pro Thr Leu Glu Lys Ile Cys Glu Glu Val Ile
              435              440              445
Val Pro Glu Ser Thr Asn Ala Arg Phe Arg Leu Trp Leu Thr Ser Tyr
              450              455              460
Pro Ser Glu Lys Phe Pro Val Ser Ile Leu Gln Asn Gly Ile Lys Met
465              470              475              480
Thr Asn Glu Pro Pro Lys Gly Leu Arg Ala Asn Leu Leu Arg Ser Tyr
              485              490              495
Leu Asn Asp Pro Ile Ser Asp Pro Val Phe Phe Gln Ser Cys Ala Lys
              500              505              510
Ala Val Met Trp Gln Lys Met Leu Phe Gly Leu Cys Phe Phe His Ala
              515              520              525
Val Val Gln Glu Arg Arg Asn Phe Gly Pro Leu Gly Trp Asn Ile Pro
              530              535              540
Tyr Glu Phe Asn Glu Ser Asp Leu Arg Ile Ser Met Trp Gln Ile Gln
545              550              555              560
Met Phe Leu Asn Asp Tyr Lys Glu Val Pro Phe Asp Ala Leu Thr Tyr

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565 570 575
 Leu Thr Gly Glu Cys Asn Tyr Gly Gly Arg Val Thr Asp Asp Lys Asp
 580 585 590
 Arg Arg Leu Leu Leu Ser Leu Leu Ser Met Phe Tyr Cys Lys Glu Ile
 595 600 605
 Glu Glu Asp Tyr Tyr Ser Leu Ala Pro Gly Asp Thr Tyr Tyr Ile Pro
 610 615 620
 Pro His Gly Ser Tyr Gln Ser Tyr Ile Asp Tyr Leu Arg Asn Leu Pro
 625 630 635 640
 Ile Thr Ala His Pro Glu Val Phe Gly Leu His Glu Asn Ala Asp Ile
 645 650 655
 Thr Lys Asp Asn Gln Glu Thr Asn Gln Leu Phe Glu Gly Val Leu Leu
 660 665 670
 Thr Leu Pro Arg Gln Ser Gly Gly Ser Gly Lys Ser Pro Gln Glu Val
 675 680 685
 Val Glu Glu Leu Ala Gln Asp Ile Leu Ser Lys Leu Pro Arg Asp Phe
 690 695 700
 Asp Leu Glu Glu Val Met Lys Leu Tyr Pro Val Val Tyr Glu Glu Ser
 705 710 715 720
 Met Asn Thr Val Leu Arg Gln Glu Leu Ile Arg Phe Asn Arg Leu Thr
 725 730 735
 Lys Val Val Arg Arg Ser Leu Ile Asn Leu Gly Arg Ala Ile Lys Gly
 740 745 750
 Gln Val Leu Met Ser Ser Glu Leu Glu Glu Val Phe Asn Ser Met Leu
 755 760 765
 Val Gly Lys Val Pro Ala Met Trp Ala Ala Lys Ser Tyr Pro Ser Leu
 770 775 780
 Lys Pro Leu Gly Gly Tyr Val Ala Asp Leu Leu Ala Arg Leu Thr Phe
 785 790 795 800
 Phe Gln Glu Trp Ile Asp Lys Gly Pro Pro Val Val Phe Trp Ile Ser
 805 810 815
 Gly Phe Tyr Phe Thr Gln Ser Phe Leu Thr Gly Val Ser Gln Asn Tyr
 820 825 830
 Ala Arg Lys Tyr Thr Ile Pro Ile Asp His Ile Gly Phe Glu Phe Glu
 835 840 845
 Val Thr Pro Gln Glu Thr Val Met Glu Asn Asn Pro Glu Asp Gly Ala
 850 855 860
 Tyr Ile Lys Gly Leu Phe Leu Glu Gly Ala Arg Trp Asp Arg Lys Thr
 865 870 875 880
 Met Gln Ile Gly Glu Ser Leu Pro Lys Ile Leu Tyr Asp Pro Leu Pro
 885 890 895
 Ile Ile Trp Leu Lys Pro Gly Glu Ser Ala Met Phe Leu His Gln Asp
 900 905 910
 Ile Tyr Val Cys Pro Val Tyr Lys Thr Ser Ala Arg Arg Gly Thr Leu
 915 920 925
 Ser Thr Thr Gly His Ser Thr Asn Tyr Val Leu Ser Ile Glu Leu Pro
 930 935 940
 Thr Asp Met Pro Gln Lys His Trp Ile Asn Arg Gly Val Ala Ser Leu
 945 950 955 960
 Cys Gln Leu Asp Asn
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<210> 4651

<211> 869

<212> DNA

<213> Homo sapiens

<400> 4651

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 120
 gccggcgcca gtctggtcct gagcctgctg cagaggggtg cgagctacgc cgggaaatgg
 180
 cagcagatgc gggccatccc cacggtggcc cgcgcctacc cactggtggg ccaacgcgctg
 240
 ctgatgaagc cggacgggag agaatttttt cagcagatca ttgagtacac agaggaatac
 300
 cgccacatgc cgtctgtgaa gctctggggtc gggccagtgc ccatggtggc cctttataat
 360
 gcagaaaaatg tggaggtaat tttaactagt tcaaagcaaa ttgacaaatc ctctatgtac
 420
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 480
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 540
 atcatgaatg aacaagcaaa tatattggtt aagaaacttg aaaaacacat taaccaagaa
 600
 gcattttaact gcttttttta catcactctt tgtgccttag atatcatctg tgaacacagct
 660
 atggggaaga atattggtgc tcaaagtaat gatgattccg agtatgtccg tgcagtttat
 720
 agaatgagtg agatgatatt tccaagaata aagatgccct ggctttggct tgatctctgg
 780
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 840
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 869

<210> 4652

<211> 289

<212> PRT

<213> Homo sapiens

<400> 4652

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 20 25 30
 Gly Ala Ala Ser Ala Val Ser Leu Ala Gly Ala Ser Leu Val Leu Ser
 35 40 45
 Leu Leu Gln Arg Val Ala Ser Tyr Ala Arg Lys Trp Gln Gln Met Arg
 50 55 60
 Pro Ile Pro Thr Val Ala Arg Ala Tyr Pro Leu Val Gly His Ala Leu
 65 70 75 80
 Leu Met Lys Pro Asp Gly Arg Glu Phe Gln Gln Ile Ile Glu Tyr
 85 90 95
 Thr Glu Glu Tyr Arg His Met Pro Leu Leu Lys Leu Trp Val Gly Pro

agcgacagtt caacgctgcc ccggaagtc ccctttgtcc gaaatacttt gaaaagacga
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 780
 ctggacttgg agctggatct ccaggcgtcg agaacacggc agaggcagct gaatgaggag
 840
 ctctgcgccc tccgtgagct ggggcagcgg ttggaggacg ccagctccg tggccagact
 900
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 960
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 1020
 aagaaggcct ccaaggagat ctaccagctg cgtgggcaga gccacaaaga gcccatccaa
 1080
 gtgcagacct ttaggagaga gatagcattc ttcacaaggc caaggatcaa catacctcct
 1140
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 1200
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 1260
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 1276

<210> 4654

<211> 255

<212> PRT

<213> Homo sapiens

<400> 4654

Met Gly Ile Asp Ser Ile Leu Gly His Pro Phe Ala Ala Gln Ala Gly
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 Pro Tyr Ser Pro Glu Lys Phe Gln Pro Ser Pro Leu Lys Val Asp Lys
 20 25 30
 Glu Thr Asn Thr Glu Asp Leu Phe Leu Glu Glu Ala Ala Ser Leu Val
 35 40 45
 Lys Glu Arg Pro Ser Arg Arg Ala Arg Gly Ser Pro Phe Val Arg Ser
 50 55 60
 Gly Thr Ile Val Arg Ser Gln Thr Phe Ser Pro Gly Ala Arg Ser Gln
 65 70 75 80
 Tyr Val Cys Arg Leu Tyr Arg Ser Asp Ser Asp Ser Ser Thr Leu Pro
 85 90 95
 Arg Lys Ser Pro Phe Val Arg Asn Thr Leu Glu Arg Arg Thr Leu Arg
 100 105 110
 Tyr Lys Gln Ser Cys Arg Ser Ser Leu Ala Glu Leu Met Ala Arg Thr
 115 120 125
 Ser Leu Asp Leu Glu Leu Asp Leu Gln Ala Ser Arg Thr Arg Gln Arg
 130 135 140
 Gln Leu Asn Glu Glu Leu Cys Ala Leu Arg Glu Leu Arg Gln Arg Leu
 145 150 155 160
 Glu Asp Ala Gln Leu Arg Gly Gln Thr Asp Leu Pro Pro Trp Val Leu
 165 170 175
 Arg Asp Glu Arg Leu Arg Gly Leu Leu Arg Glu Ala Glu Arg Gln Thr
 180 185 190
 Arg Gln Thr Lys Leu Asp Tyr Arg His Glu Gln Ala Ala Glu Lys Met


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130              135              140
Gly Arg Gln His His Gly Arg Pro
145              150

<210> 4657
<211> 723
<212> DNA
<213> Homo sapiens

<400> 4657
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aaccagctgc accgcaagtc tgtcaagaag gggtttgact tcacgctaata ggtggcaggg
120
gagtcaggcc tagggaaatc caccctcatc aacagcctct tcctcaccaa cctctatgag
180
gatcgccagg tgcagaggc cagtgtctgc ttgacacaga ccctggccat tgagcgccgg
240
ggcgtagaga ttgaggaag ggggtgtgaaa gtgaagctga cccttgtgga cacacctggc
300
tttgggggact cagtggactg ctctgactgc tggcttccgg tggtgaaatt catcgaggag
360
caatttgagc agtaccttag ggatgagagt ggccgaacc ggaagaacat ccaggactcc
420
cgagtcact gctgcctcta ctcatctca cctctcgcc gggctccggc ccctagatgt
480
ggcttccctcc gggcaataca cgagaaagtc aacatcatcc cagtcattgg caaagcggat
540
gccctgatgc ccaggaagc ccaggccctc aagcagaaga tccgggatca gttgaaggaa
600
gaggagatcc acatctacca gttccccgaa tgtgactctg atgaagatga agacttcaag
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720
gta
723

<210> 4658
<211> 233
<212> PRT
<213> Homo sapiens

<400> 4658
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20 25 30
Glu Ser Gly Leu Gly Lys Ser Thr Leu Ile Asn Ser Leu Phe Leu Thr
35 40 45
Asn Leu Tyr Glu Asp Arg Gln Val Pro Glu Ala Ser Ala Arg Leu Thr
50 55 60
Gln Thr Leu Ala Ile Glu Arg Arg Gly Val Glu Ile Glu Glu Gly Gly
65 70 75 80
Val Lys Val Lys Leu Thr Leu Val Asp Thr Pro Gly Phe Gly Asp Ser

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      85              90              95
Val Asp Cys Ser Asp Cys Trp Leu Pro Val Val Lys Phe Ile Glu Glu
      100              105              110
Gln Phe Glu Gln Tyr Leu Arg Asp Glu Ser Gly Leu Asn Arg Lys Asn
      115              120              125
Ile Gln Asp Ser Arg Val His Cys Cys Leu Tyr Phe Ile Ser Pro Phe
      130              135              140
Gly Arg Ala Pro Ala Pro Arg Cys Gly Phe Leu Arg Ala Ile His Glu
      145              150              155
Lys Val Asn Ile Ile Pro Val Ile Gly Lys Ala Asp Ala Leu Met Pro
      165              170              175
Gln Glu Thr Gln Ala Leu Lys Gln Lys Ile Arg Asp Gln Leu Lys Glu
      180              185              190
Glu Glu Ile His Ile Tyr Gln Phe Pro Glu Cys Asp Ser Asp Glu Asp
      195              200              205
Glu Asp Phe Lys Arg Gln Asp Ala Glu Met Lys Glu Ser Ile Pro Phe
      210              215              220
Ala Val Val Gly Ser Cys Glu Val Val
      225              230

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<210> 4659

<211> 864

<212> DNA

<213> Homo sapiens

<400> 4659

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120
ggcgccgggtg gtcgttgtga cccaacctgg agtcgggtccc ggtccggccc ccagaaactc
180
caactggcag acaggcatgt gtgactgttt cagcgactgc ggagtctgtc tctgtggcac
240
attttgttcc cgtgccttg ggtgtcaagt tgcagctgat atgaatgaat gctgtctgtg
300
tggaacaagc gtcgcaatga ggactctcta caggaccoga tatggcatcc ctggatctat
360
ttgtgatgac tatatggcaa ctctttgctg tcctcattgt actctttgcc aaatcaagag
420
agatatcaac agaaggagag ccatgcgtac ttctataaaa ctgatgtgta aaagctctta
480
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540
ctgaaatatg atggatatgc ttaagtacaa ctgatggcat gaaaaaaatc aaatttttga
600
tttattataa atgaatgttg tccctgaact tagctaaatg gtgcaactta gtttctctt
660
gctttcatat tatcgaatc gaatttctct gcttataaac tttttaaatt acatttgaaa
720
tataaaccaa atgaatatt ttactgataa gattcttcat gcttctttgc tctccttaaa
780
atgtcttttt cactagttag ttccaagggt cagtctcata attttgttct tatactttga
840

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tttccttttt cttttttttt ttgt
864

<210> 4660
<211> 192
<212> PRT
<213> Homo sapiens

<400> 4660
Met Pro Ser Val Val Leu Lys His Ile His Ile Ser Val Ala Lys
1 5 10 15
Asp Gly Glu Glu Leu Lys Leu Lys Arg Cys Leu Leu Asn Phe Val Ala
20 25 30
Ser Val Arg Ala Phe His His Gln Phe Leu Glu Ser Thr His Gly Ser
35 40 45
Pro Ser Val Asp Ile Ser Leu Asp Leu Ala Lys Ser Thr Met Arg Thr
50 55 60
Ala Lys Ser Cys His Ile Val Ile Thr Asn Arg Ser Arg Asp Ala Ile
65 70 75 80
Ser Gly Pro Val Glu Ser Pro His Cys Asp Ala Cys Ser Thr Gln Thr
85 90 95
Ala Phe Ile His Ile Ser Cys Asn Leu Thr Pro Lys Ala Arg Glu Thr
100 105 110
Lys Cys Ala Thr Glu Thr Asp Ser Ala Val Ala Glu Thr Val Thr His
115 120 125
Ala Cys Leu Pro Val Gly Val Leu Gly Gly Arg Thr Gly Thr Asp Ser
130 135 140
Arg Leu Gly His Asn Asp His Arg Arg Leu Ser Leu His Phe Gln Cys
145 150 155 160
Arg Ala Phe His Val Val Phe Ile Cys Gly Glu Ile Leu Ser Gln Ala
165 170 175
Thr Arg His Phe Leu Leu Gly Thr Leu Phe Thr Asn Phe His Cys Phe
180 185 190

<210> 4661
<211> 153
<212> DNA
<213> Homo sapiens

<400> 4661
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aaacacagacc atgaacagag tgaccgggga gaaggggtgg aggtcggtcca gaatgagccc
120
tttgaggacc ctccatgag ccatgggcag ttc
153

<210> 4662
<211> 51
<212> PRT
<213> Homo sapiens

<400> 4662
Arg Ile Cys Met Pro Leu Thr Val Asp Glu Tyr Lys Ile Gly Gln Leu

| | | | |
|---|---------------------------------|----|----|
| 1 | 5 | 10 | 15 |
| Tyr Met Ile Ser Lys His Ser His | Glu Gln Ser Asp Arg Gly Glu Gly | | |
| | 20 | 25 | 30 |
| Val Glu Val Val Gln Asn Glu Pro Phe Glu Asp Pro His His Gly His | | | |
| | 35 | 40 | 45 |
| Gly Gln Phe | | | |
| 50 | | | |

<210> 4663

<211> 1550

<212> DNA

<213> Homo sapiens

<400> 4663

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gatgagggtga tcctgaagga cctggagggtg ctggcagaaa tcgcttctct ccccgagggc
120
cagacggatg acccaggccc cctcgatggc cctgacctcc aggccagcca ctcagagctc
180
cagggtgcccc ccctggcgag agccggccta ctgaacacct ctggtaccaa aggcctagaa
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300
aagagattca gcagcgaacg gaagctctcg gaggtcagag gccctttcat catcaggcag
360
ctgtgcctcc tgctgaatgc ggagaacatc ttccactcaa tggcagacat cctgtctcgg
420
gaggaggacc tcaagttcgc ctcgacctat gtccacgccc tcaacacccat cctgtctgacc
480
tccacagagc tcttccagct aaggaaccag ctgaaggacc tgaagacctt ggagagccag
540
aacctgttct gctgctgtga ccgctctctg tgccacaacc cagtaccacg ggtgtccctc
600
tgcttctcta ccagaacta cgggcacgcc tatgacctca tccagaagtt tggggacctg
660
gaggtcaccc tggacttctc cgcagagggtg gacaagctgg tgcagctgat tgagtgcctc
720
atcttcacat atctgcgcct gcagctgctg gacgtgaaga acaaccctta cctgatcaag
780
gccctctacg gcctgctcat gctcctgcgc cagagcagcg ccttccagct gctctcgcac
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900
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960
gagaaggttc agaacaagca cctggaagtg cggcaccagc ggagcggggc tggggaccac
1020
ctggaccgga ggggtgtcct ctgacaggcc tggcacggag gaggggccac cgagtggctc
1080
catgaaacac taagggtcgt cagccctccc cgaggagctc aaggacctgc ctgtcaggac
1140
cagggtctgg cctgccaacc cagggcagtg ttggggccgg aggctgctgt gctctgccaa
1200

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gctcctctca gactccagtc cccaggcctc cagcgtctgc agctgcaccc tggcattctc
 1260
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 1320
 atcaacctct ttctaatacc ctcttgga aaagagctgc ccctcctcca gcacactaga
 1380
 gctctggcct tgtgtgtata tgtatacata cgtgaacaca tgctgtgtgt tgtgtgtgtg
 1440
 tgtgtacttg tatgcacgta ggcaccagca caaagatctg aatgatgcac cccaccccca
 1500
 ccccaataaa gaaataacag aaaaccctca aaaaaaaaaa aaaaaaaaaa
 1550

<210> 4664

<211> 347

<212> PRT

<213> Homo sapiens

<400> 4664

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| Met | Phe | Arg | His | Thr | Asp | Ser | Leu | Phe | Pro | Ile | Leu | Leu | Gln | Thr | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Asp | Glu | Ser | Asp | Glu | Val | Ile | Leu | Lys | Asp | Leu | Glu | Val | Leu | Ala |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Glu | Ile | Ala | Ser | Ser | Pro | Ala | Gly | Gln | Thr | Asp | Asp | Pro | Gly | Pro | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Asp | Gly | Pro | Asp | Leu | Gln | Ala | Ser | His | Ser | Glu | Leu | Gln | Val | Pro | Thr |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Pro | Gly | Arg | Ala | Gly | Leu | Leu | Asn | Thr | Ser | Gly | Thr | Lys | Gly | Leu | Glu |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Cys | Ser | Pro | Ser | Thr | Pro | Thr | Met | Asn | Ser | Tyr | Phe | Tyr | Lys | Phe | Met |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Ile | Asn | Leu | Leu | Lys | Arg | Phe | Ser | Ser | Glu | Arg | Lys | Leu | Leu | Glu | Val |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Arg | Gly | Pro | Phe | Ile | Ile | Arg | Gln | Leu | Cys | Leu | Leu | Leu | Asn | Ala | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Asn | Ile | Phe | His | Ser | Met | Ala | Asp | Ile | Leu | Leu | Arg | Glu | Glu | Asp | Leu |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Lys | Phe | Ala | Ser | Thr | Met | Val | His | Ala | Leu | Asn | Thr | Ile | Leu | Leu | Thr |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Ser | Thr | Glu | Leu | Phe | Gln | Leu | Arg | Asn | Gln | Leu | Lys | Asp | Leu | Lys | Thr |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Leu | Glu | Ser | Gln | Asn | Leu | Phe | Cys | Cys | Leu | Tyr | Arg | Ser | Trp | Cys | His |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Asn | Pro | Val | Thr | Thr | Val | Ser | Leu | Cys | Phe | Leu | Thr | Gln | Asn | Tyr | Arg |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| His | Ala | Tyr | Asp | Leu | Ile | Gln | Lys | Phe | Gly | Asp | Leu | Glu | Val | Thr | Val |
| | | 210 | | | | 215 | | | | 220 | | | | | |
| Asp | Phe | Leu | Ala | Glu | Val | Asp | Lys | Leu | Val | Gln | Leu | Ile | Glu | Cys | Pro |
| 225 | | | | 230 | | | | | 235 | | | | | 240 | |
| Ile | Phe | Thr | Tyr | Leu | Arg | Leu | Gln | Leu | Leu | Asp | Val | Lys | Asn | Asn | Pro |
| | | | 245 | | | | 250 | | | | | | | 255 | |
| Tyr | Leu | Ile | Lys | Ala | Leu | Tyr | Gly | Leu | Leu | Met | Leu | Leu | Pro | Gln | Ser |
| | | 260 | | | | | 265 | | | | | 270 | | | |
| Ser | Ala | Phe | Gln | Leu | Leu | Ser | His | Arg | Leu | Gln | Cys | Val | Pro | Asn | Pro |

<211> 167

<212> PRT

<213> Homo sapiens

<400> 4666

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          20           25           30
Arg Glu Phe Trp Ser Arg Phe Arg Lys Glu Lys Glu Pro Val Val Val
          35           40           45
Glu Thr Val Glu Glu Lys Lys Glu Pro Ile Leu Val Cys Pro Pro Leu
          50           55           60
Arg Ser Arg Ala Tyr Thr Pro Pro Glu Asp Leu Gln Ser Arg Leu Glu
65           70           75           80
Ser Tyr Val Lys Glu Val Phe Gly Ser Ser Leu Pro Ser Asn Trp Gln
          85           90           95
Asp Ile Ser Leu Glu Asp Ser Arg Leu Lys Phe Asn Leu Leu Ala His
          100          105          110
Leu Ala Asp Asp Leu Gly His Val Val Pro Asn Ser Arg Leu His Gln
          115          120          125
Met Cys Arg Val Arg Asp Val Leu Asp Phe Tyr Asn Val Pro Ile Gln
          130          135          140
Asp Arg Ser Lys Phe Asp Glu Leu Ser Ala Ser Asn Leu Pro Pro Asn
145          150          155          160
Leu Lys Ile Thr Trp Ser Tyr
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<210> 4667

<211> 1031

<212> DNA

<213> Homo sapiens

<400> 4667

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<211> 207

<212> PRT

<213> Homo sapiens

<400> 4668

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 Ala Gln Lys Ala Arg Trp Leu Ile Pro Leu Leu Glu Gly Lys Ala Arg
 35 40 45
 Ser Cys Phe Ala Met Thr Glu Pro Gln Val Ala Ser Ser Asp Ala Thr
 50 55 60
 Asn Ile Glu Ala Ser Ile Arg Glu Glu Asp Ser Phe Tyr Val Ile Asn
 65 70 75 80
 Gly His Lys Trp Trp Ile Thr Gly Ile Leu Asp Pro Arg Cys Gln Leu
 85 90 95
 Cys Val Phe Met Gly Lys Thr Asp Pro His Ala Pro Arg His Arg Gln
 100 105 110
 Gln Ser Val Leu Leu Val Pro Met Asp Thr Pro Gly Ile Lys Ile Ile
 115 120 125
 Arg Pro Leu Thr Val Tyr Gly Leu Glu Asp Ala Pro Gly Gly His Gly
 130 135 140
 Glu Val Arg Phe Glu His Val Arg Val Pro Lys Glu Asn Met Val Leu
 145 150 155 160
 Gly Pro Gly Arg Gly Phe Glu Ile Ala Gln Gly Arg Leu Gly Pro Gly
 165 170 175
 Arg Ile His His Cys Met Arg Leu Ile Gly Phe Ser Glu Arg Ala Leu
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 Ala Leu Met Lys Ala Arg Val Ser Ala Phe Pro Arg Thr Gln His
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<210> 4669

<211> 683

<212> DNA

<213> Homo sapiens

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 <212> PRT
 <213> Homo sapiens

<400> 4670
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 Thr Cys Val Gln Ala Gly Phe Gln Asp Met Asn Ile Lys Lys Gln Ile
 35 40 45
 Gln Glu Gln His Gln Ala Ala Ile Ile Ile Gln Lys His Cys Lys Ala
 50 55 60
 Phe Lys Ile Arg Lys His Tyr Leu His Ile Arg Ala Thr Val Val Ser
 65 70 75 80
 Ile Gln Arg Arg Tyr Arg Lys Leu Thr Ala Val Arg Thr Gln Ala Val
 85 90 95
 Ile Cys Ile Gln Ser Tyr Tyr Arg Gly Phe Lys Val Arg Lys Asp Ile
 100 105 110
 Gln Asn Met His Arg Ala Ala Thr Leu Ile Gln Ser Phe Tyr Arg Met
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 His Arg Ala Lys Val Asp Tyr
 130 135

<210> 4671
 <211> 657

<212> DNA

<213> Homo sapiens

<400> 4671

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 240
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<210> 4672

<211> 152

<212> PRT

<213> Homo sapiens

<400> 4672

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 20 25 30
 Lys Leu Met Leu Asp His Met Thr Asn Thr Thr Asn Ala Ser His Val
 35 40 45
 Pro Val Gln Pro Gly Ser Ser Val Val Met Met Val Asn Asn Leu Gly
 50 55 60
 Gly Leu Ser Phe Leu Glu Leu Gly Ile Ile Ala Asp Ala Thr Val Arg
 65 70 75 80
 Ser Leu Glu Gly Arg Gly Val Lys Ile Ala Arg Ala Leu Val Gly Thr
 85 90 95
 Phe Met Ser Ala Leu Glu Met Pro Gly Ile Ser Leu Thr Leu Leu Leu
 100 105 110
 Val Asp Glu Pro Leu Leu Lys Leu Ile Asp Ala Glu Thr Thr Ala Ala
 115 120 125
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 130 135 140
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<210> 4673

<211> 1335

<212> DNA

<213> Homo sapiens

<400> 4673

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<210> 4674

<211> 402
 <212> PRT
 <213> Homo sapiens

<400> 4674

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Ala Asn Ser Leu Ala Ser Ser Gly Pro His Asn Leu Thr Tyr Pro Leu
              35              40              45
Gly Pro Arg Asn Glu Asp Leu Ser Leu Asp Tyr Ala Ser Gln Pro Ala
              50              55              60
Asn Leu Gln Phe Pro His Ile Met Pro Leu Ala Glu Asp Ile Lys Gly
65              70              75              80
Ser Cys Phe Gln Ser Gly Asn Lys Arg Asn His Glu Pro Phe Ile Ala
              85              90              95
Pro Glu Arg Phe Gly Asn Ser Ser Val Gly Phe Gly Ser Asn Ser His
              100              105              110
Ser Gln Ala Pro Glu Lys Val Thr Leu Leu Val Asp Gly Thr Arg Phe
              115              120              125
Val Val Asn Pro Gln Ile Phe Thr Ala His Pro Asp Thr Met Leu Gly
130              135              140
Arg Met Phe Gly Pro Gly Arg Glu Tyr Asn Phe Thr Arg Pro Asn Glu
145              150              155              160
Lys Gly Glu Tyr Glu Ile Ala Glu Gly Ile Ser Ala Thr Val Phe Arg
              165              170              175
Thr Val Leu Asp Tyr Tyr Lys Thr Gly Ile Ile Asn Cys Pro Asp Gly
              180              185              190
Ile Ser Ile Pro Asp Leu Arg Asp Thr Cys Asp Tyr Leu Cys Ile Asn
195              200              205
Phe Asp Phe Asn Thr Ile Arg Cys Gln Asp Leu Ser Ala Leu Leu His
210              215              220
Glu Leu Ser Asn Asp Gly Ala His Lys Gln Phe Asp His Tyr Leu Glu
225              230              235              240
Glu Leu Ile Leu Pro Ile Met Val Gly Cys Ala Lys Lys Gly Glu Arg
              245              250              255
Glu Cys His Ile Val Val Leu Thr Asp Glu Asp Ser Val Asp Trp Asp
260              265              270
Glu Asp His Pro Pro Pro Met Gly Glu Glu Tyr Ser Gln Ile Leu Tyr
275              280              285
Ser Ser Lys Leu Tyr Arg Phe Phe Lys Tyr Ile Glu Asn Arg Asp Val
290              295              300
Ala Lys Thr Val Leu Lys Glu Arg Gly Leu Lys Asn Ile Arg Ile Gly
305              310              315              320
Ile Glu Gly Tyr Pro Thr Cys Lys Glu Lys Ile Lys Arg Arg Pro Gly
              325              330              335
Gly Arg Ser Glu Val Ile Tyr Asn Tyr Val Gln Arg Pro Phe Ile Gln
340              345              350
Met Ser Trp Glu Lys Glu Glu Gly Lys Ser Arg His Val Asp Phe Gln
355              360              365
Cys Val Arg Ser Lys Ser Leu Thr Asn Leu Val Ala Ala Gly Asp Asp
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Val Leu Glu Asp Gln Glu Ile Leu Met His His Pro Pro Gln Val Asp

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<210> 4675
 <211> 2868
 <212> DNA
 <213> Homo sapiens

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2868

<211> 641
 <212> PRT
 <213> Homo sapiens

<400> 4676

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Glu Phe Asn Pro Ser Ser Ser Gly Arg Ser Ala Arg Thr Val Ser Ser
      35           40           45
Asn Ser Phe Cys Ser Asp Asp Thr Gly Cys Pro Ser Ser Gln Ser Val
      50           55           60
Ser Pro Val Lys Thr Pro Ser Asp Ala Gly Asn Ser Pro Ile Gly Phe
      65           70           75           80
Cys Pro Gly Ser Asp Glu Gly Phe Thr Arg Lys Lys Cys Thr Ile Gly
      85           90           95
Met Val Gly Glu Gly Ser Ile Gln Ser Ser Arg Tyr Lys Lys Glu Ser
      100          105          110
Lys Ser Gly Leu Val Lys Pro Gly Ser Glu Ala Asp Phe Ser Ser Ser
      115          120          125
Ser Ser Thr Gly Ser Ile Ser Ala Pro Glu Val His Met Ser Thr Ala
      130          135          140
Gly Ser Lys Arg Ser Ser Ser Arg Asn Arg Gly Pro His Gly Arg
      145          150          155          160
Ser Asn Gly Ala Ser Ser His Lys Pro Gly Ser Ser Ser Ser Pro
      165          170          175
Arg Glu Lys Asp Leu Leu Ser Met Leu Cys Arg Asn Gln Leu Ser Pro
      180          185          190
Val Asn Ile His Pro Ser Tyr Ala Pro Ser Ser Pro Ser Ser Ser Asn
      195          200          205
Ser Gly Ser Tyr Lys Gly Ser Asp Cys Ser Pro Ile Met Arg Arg Ser
      210          215          220
Gly Arg Tyr Met Ser Cys Gly Glu Asn His Gly Val Arg Pro Pro Asn
      225          230          235          240
Pro Glu Gln Tyr Leu Thr Pro Leu Gln Gln Lys Glu Val Thr Val Arg
      245          250          255
His Leu Lys Thr Lys Leu Lys Glu Ser Glu Arg Arg Leu His Glu Arg
      260          265          270
Glu Ser Glu Ile Val Glu Leu Lys Ser Gln Leu Ala Arg Met Arg Glu
      275          280          285
Asp Trp Ile Glu Glu Glu Cys His Arg Val Glu Ala Gln Leu Ala Leu
      290          295          300
Lys Glu Ala Arg Lys Glu Ile Lys Gln Leu Lys Gln Val Ile Glu Thr
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Met Arg Ser Ser Leu Ala Asp Lys Asp Lys Gly Ile Gln Lys Tyr Phe
      325          330          335
Val Asp Ile Asn Ile Gln Asn Lys Lys Leu Glu Ser Leu Leu Gln Ser
      340          345          350
Met Glu Met Ala His Ser Gly Ser Leu Arg Asp Glu Leu Cys Leu Asp
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Phe Pro Cys Asp Ser Pro Glu Lys Ser Leu Thr Leu Asn Pro Pro Leu
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Asp Thr Met Ala Asp Gly Leu Ser Leu Glu Glu Gln Val Thr Gly Glu

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          435          440          445
Pro Ile Val Met Gly Gln Glu Gly Ser Val Val Val Glu Arg Ala
          450          455          460
Val Gln Thr Asp Val Val Pro Tyr Ser Pro Ala Ile Ser Glu Leu Ile
          465          470          475
Gln Ser Val Leu Gln Lys Leu Gln Asp Pro Cys Pro Ser Ser Leu Ala
          485          490          495
Ser Pro Asp Glu Ser Glu Pro Asp Ser Met Glu Ser Phe Pro Glu Ser
          500          505          510
Leu Ser Ala Leu Val Val Asp Leu Thr Pro Arg Asn Pro Asn Ser Ala
          515          520          525
Ile Leu Leu Ser Pro Val Glu Thr Pro Tyr Xaa Gln Cys Gly Cys Arg
          530          535          540
Ser Ser Cys Lys Pro Pro His Glu Arg Ala Gly Xaa Phe Ala Ala Cys
          545          550          555
Val Glu Glu Arg Leu Asp Gly Val Ile Pro Leu Ala Arg Gly Gly Val
          565          570          575
Val Arg Gln Tyr Trp Ser Ser Ser Phe Leu Val Asp Leu Leu Ala Val
          580          585          590
Ala Ala Pro Val Val Pro Thr Val Leu Trp Ala Phe Ser Thr Gln Arg
          595          600          605
Gly Gly Thr Asp Pro Val Tyr Asn Ile Gly Ala Leu Leu Arg Gly Cys
          610          615          620
Cys Val Val Ala Leu His Ser Leu Arg Arg Thr Ala Phe Arg Ile Lys
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Thr

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<210> 4677

<211> 940

<212> DNA

<213> Homo sapiens

<400> 4677

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420

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<210> 4678

<211> 133

<212> PRT

<213> Homo sapiens

<400> 4678

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Phe | Phe | Ser | His | Ser | Val | Arg | Cys | Ala | Arg | Lys | Gln | Leu | Leu | Gly |
| | | | | 20 | | | | 25 | | | | 30 | | | |
| Arg | Thr | Val | Phe | Ile | Trp | Phe | Val | Gly | Gln | Leu | Leu | Gly | Gly | Glu | Leu |
| | | | | 35 | | | | 40 | | | | 45 | | | |
| Lys | Gly | Tyr | Ser | Lys | Thr | Asn | Thr | Thr | Ser | Ser | Arg | Pro | Ala | Ser | Ser |
| | | | | 50 | | 55 | | | | | 60 | | | | |
| Arg | Gly | Ser | Leu | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Leu | Thr | Lys | |
| 65 | | | | 70 | | | | 75 | | | | | 80 | | |
| Asp | Ala | Leu | Pro | Ser | Ser | Leu | Lys | Ser | Asp | Ser | Thr | Thr | Ile | Thr | Ser |
| | | | | 85 | | | | 90 | | | | | 95 | | |
| Gly | Leu | Val | Phe | Pro | Phe | Arg | Ser | Leu | Cys | Val | Asn | Pro | Ala | Lys | Ser |
| | | | | 100 | | | | 105 | | | | | 110 | | |
| Ser | Val | Ser | Glu | Ser | Val | Ser | Ser | Ile | Lys | Ile | Leu | Leu | Ser | Ser | Ser |
| | | | | 115 | | | | 120 | | | | | 125 | | |
| Val | Lys | Tyr | Leu | Glu | | | | | | | | | | | |
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<210> 4679

<211> 2284

<212> DNA

<213> Homo sapiens

<400> 4679

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<210> 4680
 <211> 112
 <212> PRT
 <213> Homo sapiens

<400> 4680
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 35 40 45
 Ser Pro Cys Ser Leu Thr Phe Ser Arg Ala Ile Lys Ala Thr Ser Ser
 50 55 60
 Ile Ala Gly Pro Gln Thr Phe Gln Gly Lys His Cys Phe Thr Ser Cys
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 Arg Gln Leu Ile Ser Gln Lys Pro Leu Gln Lys Pro Val Leu Pro Gly
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<210> 4681
 <211> 906
 <212> DNA
 <213> Homo sapiens

<400> 4681
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<210> 4682

<211> 153

<212> PRT

<213> Homo sapiens

<400> 4682

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 Phe Leu Phe His Gln Thr Thr Arg Gln Lys Asn Leu Ser Phe Leu Pro
 35 40 45
 Pro Phe Ser Phe Phe Pro Ser Cys Thr His Leu Glu Asn Phe Thr Phe
 50 55 60
 Leu Glu Ser Pro Gln Asn Asn Thr Lys Val Ile Val Gly Ala Thr Gly
 65 70 75 80
 Phe Met Leu Tyr Cys Gly Ala Arg Gly Lys Thr Cys Leu Tyr Ala Gly
 85 90 95
 Asn Thr His Asn His Ser Phe Arg Phe Val Cys Leu Met Val Ile Cys
 100 105 110
 His Lys Arg Asp Leu Gln Lys Gln Gly Ala Leu Val Asn Val Gln Tyr
 115 120 125
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<210> 4683

<211> 3246

<212> DNA

<213> Homo sapiens

<400> 4683

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1440

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<210> 4684
 <211> 385
 <212> PRT
 <213> Homo sapiens

<400> 4684
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 Pro His Ala Arg Ser Arg Val Arg Pro Ala Pro Lys Thr Ile Pro Gln
 35 40 45
 Gln Thr His Gly Thr Ala Arg Ile Gly Thr His Asn Gly Thr Phe His
 50 55 60
 Cys Asp Glu Ala Leu Ala Cys Ala Leu Leu Arg Leu Leu Pro Glu Tyr
 65 70 75 80
 Arg Asp Ala Glu Ile Val Arg Thr Arg Asp Pro Glu Lys Leu Ala Ser
 85 90 95
 Cys Asp Ile Val Val Asp Val Gly Gly Glu Tyr Asp Pro Arg Arg His
 100 105 110
 Arg Tyr Asp His His Gln Arg Ser Phe Thr Glu Thr Met Ser Ser Leu
 115 120 125
 Ser Pro Gly Lys Pro Trp Gln Thr Lys Leu Ser Ser Ala Gly Leu Ile
 130 135 140
 Tyr Leu His Phe Gly His Lys Leu Leu Ala Gln Leu Leu Gly Thr Ser
 145 150 155 160
 Glu Glu Asp Ser Met Val Gly Thr Leu Tyr Asp Lys Met Tyr Glu Asn
 165 170 175
 Phe Val Glu Glu Val Asp Ala Val Asp Asn Gly Ile Ser Gln Trp Ala
 180 185 190
 Glu Gly Glu Pro Arg Tyr Ala Leu Thr Thr Thr Leu Ser Ala Arg Val
 195 200 205
 Ala Arg Leu Asn Pro Thr Trp Asn His Pro Asp Gln Asp Thr Glu Ala
 210 215 220
 Gly Phe Lys Arg Ala Met Asp Leu Val Gln Glu Glu Phe Leu Gln Arg
 225 230 235 240
 Leu Asp Phe Tyr Gln His Ser Trp Leu Pro Ala Arg Ala Leu Val Glu
 245 250 255
 Glu Ala Leu Ala Gln Arg Phe Gln Val Asp Pro Ser Gly Glu Ile Val
 260 265 270
 Glu Leu Ala Lys Gly Ala Cys Pro Trp Lys Glu His Leu Tyr His Leu
 275 280 285
 Glu Ser Gly Leu Ser Pro Pro Val Ala Ile Phe Phe Val Ile Tyr Thr
 290 295 300
 Asp Gln Ala Gly Gln Trp Arg Ile Gln Cys Val Pro Lys Glu Pro His

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305          310          315          320
Ser Phe Gln Ser Arg Leu Pro Leu Pro Glu Pro Trp Arg Gly Leu Arg
          325          330          335
Asp Glu Ala Leu Asp Gln Val Ser Gly Ile Pro Gly Cys Ile Phe Val
          340          345          350
His Ala Ser Gly Phe Ile Gly Gly His Arg Thr Arg Glu Gly Ala Leu
          355          360          365
Ser Met Ala Arg Ala Thr Leu Ala Gln Arg Ser Tyr Leu Pro Gln Ile
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Ser

385

<210> 4685

<211> 618

<212> DNA

<213> Homo sapiens

<400> 4685

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<210> 4686

<211> 106

<212> PRT

<213> Homo sapiens

<400> 4686

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20          25          30
Ser Gly Leu Ser Leu Gln Glu Ala Gln Gln Ile Leu Asn Val Ser Lys
35          40          45
Leu Ser Pro Glu Glu Val Gln Lys Asn Tyr Glu His Leu Phe Lys Val

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      50              55              60
Asn Asp Lys Ser Val Gly Gly Ser Phe Tyr Leu Gln Ser Lys Val Val
65              70              75              80
Arg Ala Lys Glu Arg Leu Asp Glu Glu Leu Lys Ile Gln Ala Gln Glu
      85              90              95
Asp Arg Glu Lys Gly Gln Met Pro His Thr
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<210> 4687
<211> 309
<212> DNA
<213> Homo sapiens

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<400> 4687
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309

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<210> 4688
<211> 90
<212> PRT
<213> Homo sapiens

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<400> 4688
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      20      25      30
Pro Leu Trp Val Ala Leu Met Ser Ala Leu Ile Leu Gly Leu Leu Phe
      35      40      45
Val Ala Val Tyr Ser Leu Ser His Gly Glu Val Ser Tyr Asp Pro Leu
      50      55      60
Tyr Ala Gly Phe Ala Val Phe Ala Phe Thr Ser Gly Gly Asp Leu Ile
65      70      75      80
Ile Ala Leu Gln Glu Asp Ser Tyr Gly Gly
      85      90

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<210> 4689
<211> 898
<212> DNA
<213> Homo sapiens

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<400> 4689
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 780
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<210> 4690

<211> 299

<212> PRT

<213> Homo sapiens

<400> 4690

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 35 40 45
 Ser His Tyr Glu Phe Ser Arg Val Arg Glu Phe Val Gly Gln Leu Val
 50 55 60
 Ala Pro Leu Pro Leu Ala Pro Xaa Ala Leu Arg Ala Ser Leu Val His
 65 70 75 80
 Val Gly Ser Arg Pro Tyr Thr Glu Phe Pro Phe Gly Gln His Ser Ser
 85 90 95
 Gly Glu Ala Ala Gln Asp Ala Val Arg Ala Ser Ala Gln Arg Met Gly
 100 105 110
 Asp Thr His Thr Gly Leu Ala Leu Val Tyr Ala Lys Glu Gln Leu Phe
 115 120 125
 Ala Glu Ala Ser Gly Ala Arg Pro Gly Val Pro Lys Val Leu Val Trp
 130 135 140
 Val Thr Asp Gly Gly Ser Ser Asp Pro Val Gly Pro Pro Met Gln Glu

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145              150              155              160
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              165              170              175
Asn Phe Leu Glu Leu Ser Ala Ala Ala Ser Ala Pro Ala Glu Lys His
              180              185              190
Leu His Phe Val Asp Val Asp Asp Leu His Ile Ile Val Gln Glu Leu
              195              200              205
Arg Gly Ser Ile Leu Asp Ala Met Arg Pro Gln Gln Leu His Ala Thr
              210              215              220
Glu Ile Thr Ser Ser Gly Phe Arg Leu Ala Trp Pro Pro Leu Leu Thr
225              230              235              240
Ala Asp Ser Gly Tyr Tyr Val Leu Glu Leu Val Pro Ser Ala Gln Pro
              245              250              255
Gly Ala Ala Arg Arg Gln Gln Leu Pro Gly Asn Ala Thr Asp Trp Ile
              260              265              270
Trp Ala Gly Leu Asp Pro Asp Thr Asp Tyr Asp Val Ala Leu Val Pro
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<210> 4691

<211> 2375

<212> DNA

<213> Homo sapiens

<400> 4691

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<212> PRT

<213> Homo sapiens

<400> 4692

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 195         200         205
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 210         215         220
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 225         230         235         240
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 Lys Gly Phe Leu Ala Gly Tyr Val Val Ala Lys Leu Arg Ala Ser Ala
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 Val Leu Gly Phe Ala Val Gly Thr Cys Thr Gly Ile Tyr Ala Ala Gln
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<210> 4695

<211> 2209

<212> DNA

<213> Homo sapiens

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<210> 4696

<211> 302

<212> PRT

<213> Homo sapiens

<400> 4696

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| Arg | Gly | Val | Lys | Ile | Ala | Arg | Ala | Leu | Val | Gly | Thr | Phe | Met | Ser | Ala |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Leu | Glu | Met | Pro | Gly | Ile | Ser | Leu | Thr | Leu | Leu | Leu | Val | Asp | Glu | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Leu | Lys | Leu | Ile | Asp | Ala | Glu | Thr | Thr | Ala | Ala | Ala | Trp | Pro | Asn |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Val | Ala | Ala | Val | Ser | Ile | Thr | Gly | Arg | Lys | Arg | Ser | Arg | Val | Ala | Pro |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Ala | Glu | Pro | Gln | Glu | Ala | Pro | Asp | Ser | Thr | Ala | Ala | Xaa | Glu | Ala | Gln |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Pro | Arg | Ser | Xaa | Met | Ala | Leu | Val | Leu | Glu | Arg | Val | Cys | Ser | Thr | Leu |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Leu | Gly | Leu | Glu | Glu | His | Leu | Asn | Ala | Leu | Asp | Arg | Ala | Ala | Gly | Asp |
| | | 115 | | | | | 120 | | | | | 125 | | | |
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210             215             220
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225             230             235             240
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245             250             255
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260             265             270
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<211> 1047

<212> DNA

<213> Homo sapiens

<400> 4697

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<210> 4698

<211> 182

<212> PRT

<213> Homo sapiens

<400> 4698

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Asp | Gly | Thr | Val | Phe | Arg | Ile | His | Thr | Lys | Ala | Glu | Gly | Phe | Met |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Asp | Ala | Asp | Ile | Pro | Leu | Glu | Leu | Val | Phe | His | Leu | Pro | Val | Asn | Tyr |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Ser | Cys | Leu | Pro | Gly | Ile | Ser | Ile | Asn | Ser | Glu | Gln | Leu | Thr | Arg |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Ala | Gln | Cys | Val | Thr | Val | Lys | Glu | Lys | Leu | Leu | Glu | Gln | Ala | Glu | Ser |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Leu | Leu | Ser | Glu | Pro | Met | Val | His | Glu | Leu | Val | Leu | Trp | Ile | Gln | Gln |
| | | | | 85 | | | | 90 | | | | | 95 | | |
| Asn | Leu | Arg | His | Ile | Leu | Ser | Gln | Pro | Glu | Thr | Gly | Ser | Gly | Ser | Glu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Lys | Cys | Thr | Phe | Ser | Thr | Ser | Thr | Thr | Met | Asp | Asp | Gly | Leu | Trp | Ile |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Thr | Leu | Leu | His | Leu | Asp | His | Met | Arg | Ala | Lys | Thr | Lys | Tyr | Val | Lys |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ile | Val | Glu | Lys | Trp | Ala | Ser | Asp | Leu | Arg | Leu | Thr | Gly | Arg | Leu | Met |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Phe | Met | Gly | Lys | Ile | Ile | Leu | Ile | Leu | Leu | Gln | Gly | Asp | Arg | Asn | Asn |
| | | | 165 | | | | | 170 | | | | | | 175 | |
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<212> DNA

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<211> 116

<212> PRT

<213> Homo sapiens

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Gly Leu Gly His Ser Pro Cys Thr Ser Lys Thr Pro Val Leu Thr Pro
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<210> 4702
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 <212> PRT
 <213> Homo sapiens

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<400> 4702
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His Xaa Pro Pro Gly His Phe Phe Leu Glu Thr Arg Ser Tyr Ser Leu
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<210> 4703

<211> 513

<212> DNA

<213> Homo sapiens

<400> 4703

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<210> 4704

<211> 112

<212> PRT

<213> Homo sapiens

<400> 4704

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Met Ala Ala Pro Glu Gln Pro Leu Ala Ile Ser Arg Gly Cys Thr Ser
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His Leu Pro Ala Glu Leu Thr Ala Glu Glu Lys Glu Asp Leu Leu Lys
      35             40             45
Tyr Phe Gly Ala Gln Ser Val Arg Val Leu Ser Asp Lys Gly Arg Leu
      50             55             60
Lys His Thr Ala Phe Ala Thr Phe Pro Asn Glu Lys Ala Ala Ile Lys
      65             70             75             80
Ala Leu Thr Arg Leu His Gln Leu Lys Leu Leu Gly His Thr Leu Val
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Val Glu Phe Ala Lys Glu Gln Asp Arg Val His Ser Pro Cys Pro Thr

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100

105

110

<210> 4705
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 <212> DNA
 <213> Homo sapiens

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 240
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<210> 4706
 <211> 154
 <212> PRT
 <213> Homo sapiens

<400> 4706
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 35 40 45
 Val Met Ile Tyr Asp Ala Glu Lys Gln Arg Pro Arg Gly Lys Gly Arg
 50 55 60
 Ser Ser Leu Thr Ser Ala Phe Ser Leu Leu Leu Pro Gln Met Ala Asn
 65 70 75 80
 Tyr Leu Thr Arg Gln Ala His Thr Gly Gly Gly Cys Ser Lys Gln Pro
 85 90 95
 Gln Glu Gly Thr Ile Trp Arg Gln Met Thr Lys Thr Trp Ala Pro His
 100 105 110
 Val His Pro Ile Gln Pro Val Cys Ala Ser Arg Gly Gln Thr Ser His
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145

150

<210> 4707

<211> 748

<212> DNA

<213> Homo sapiens

<400> 4707

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 180
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 240
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 300
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 420
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 480
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<210> 4708

<211> 128

<212> PRT

<213> Homo sapiens

<400> 4708

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 20 25 30
 His Leu Pro Ala Glu Leu Thr Ala Glu Lys Glu Asp Leu Leu Lys
 35 40 45
 Tyr Phe Gly Ala Gln Ser Val Arg Val Leu Ser Asp Lys Gly Arg Leu
 50 55 60
 Lys His Thr Ala Phe Ala Thr Phe Pro Asn Glu Lys Ala Ala Ile Lys
 65 70 75 80
 Ala Leu Thr Arg Leu His Gln Leu Lys Leu Leu Gly His Thr Leu Val
 85 90 95
 Val Glu Phe Ala Lys Glu Gln Asp Arg Val His Ser Pro Cys Pro Thr

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| | 100 | | 105 | | 110 |
| Ser | Gly | Ser | Glu | Lys | Lys |
| | | Lys | Lys | Met | Ser |
| | | | Asp | Asp | Pro |
| | | | | Val | Glu |
| | | | | Asp | Asp |
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<210> 4709

<211> 1351

<212> DNA

<213> Homo sapiens

<400> 4709

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1351

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<211> 304
<212> PRT
<213> Homo sapiens

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35 40 45
Gln Ser Arg Gly Phe Gly Phe Val Lys Phe Lys Asp Pro Asn Cys Val
50 55 60
Gly Thr Val Leu Ala Ser Arg Pro His Thr Leu Asp Gly Arg Asn Ile
65 70 75 80
Asp Pro Lys Pro Cys Thr Pro Arg Gly Met Gln Pro Glu Arg Thr Arg
85 90 95
Pro Lys Glu Gly Trp Gln Lys Gly Pro Arg Ser Asp Asn Ser Lys Ser
100 105 110
Asn Lys Ile Phe Val Gly Gly Ile Pro His Asn Cys Gly Glu Thr Glu
115 120 125
Leu Arg Glu Tyr Phe Lys Lys Phe Gly Val Val Thr Glu Val Val Met
130 135 140
Ile Tyr Asp Ala Glu Lys Gln Arg Pro Arg Gly Phe Gly Phe Ile Thr
145 150 155 160
Phe Glu Asp Glu Gln Ser Val Asp Gln Ala Val Asn Met His Phe His
165 170 175
Asp Ile Met Gly Lys Lys Val Glu Val Lys Arg Ala Glu Pro Arg Asp
180 185 190
Ser Lys Ser Gln Ala Pro Gly Gln Pro Gly Ala Ser Gln Trp Gly Ser
195 200 205
Arg Val Val Pro Asn Ala Ala Asn Gly Trp Ala Gly Gln Pro Pro Pro
210 215 220
Thr Trp Gln Gln Gly Tyr Gly Pro Gln Gly Met Trp Val Pro Ala Gly
225 230 235 240
Gln Ala Ile Gly Gly Tyr Gly Pro Pro Ala Gly Arg Gly Ala Pro
245 250 255
Pro Pro Pro Pro Pro Phe Thr Ser Tyr Ile Val Ser Thr Pro Pro Gly
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<210> 4711
<211> 2061
<212> DNA
<213> Homo sapiens

<400> 4711

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<210> 4712

<211> 187

<212> PRT

<213> Homo sapiens

<400> 4712

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| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Leu | Gln | Met | Asp | Val | Met | Pro | Gly | Glu | Gly | Asp | Leu | Pro | Gln | Met | Glu |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Val | Gly | Ser | Gly | Ser | Arg | Glu | Leu | Ser | Leu | Arg | Pro | Ser | Arg | Ser | Gly |
| | | | 35 | | | | 40 | | | | 45 | | | | |
| Ala | Gln | Gln | Leu | Glu | Glu | Glu | Gly | Pro | Met | Glu | Glu | Glu | Glu | Ala | Gln |
| | | | 50 | | | 55 | | | | 60 | | | | | |
| Pro | Met | Ala | Ala | Pro | Glu | Gly | Lys | Arg | Ser | Leu | Ala | Asn | Gly | Pro | Asn |
| | | | | | 70 | | | | | 75 | | | | 80 | |
| Ala | Gly | Glu | Gln | Pro | Gly | Gln | Val | Ala | Gly | Ala | Asp | Phe | Glu | Ser | Glu |
| | | | | 85 | | | | 90 | | | | | 95 | | |
| Asp | Glu | Gly | Glu | Glu | Phe | Asp | Asp | Trp | Glu | Asp | Asp | Tyr | Asp | Tyr | Pro |
| | | | 100 | | | | | 105 | | | | 110 | | | |
| Glu | Glu | Glu | Gln | Leu | Ser | Gly | Ala | Gly | Tyr | Arg | Val | Ser | Ala | Ala | Leu |
| | | | 115 | | | 120 | | | | | | 125 | | | |
| Glu | Glu | Ala | Asp | Lys | Met | Phe | Leu | Arg | Thr | Arg | Glu | Pro | Ala | Leu | Asp |
| | | | 130 | | | 135 | | | | | 140 | | | | |
| Gly | Gly | Phe | Gln | Met | His | Tyr | Glu | Lys | Thr | Pro | Phe | Asp | Gln | Leu | Ala |
| | | | | | 150 | | | | | 155 | | | | 160 | |
| Phe | Ile | Glu | Glu | Leu | Phe | Ser | Leu | Met | Val | Val | Asn | Arg | Leu | Thr | Glu |
| | | | | 165 | | | | 170 | | | | | 175 | | |
| Glu | Leu | Gly | Cys | Asp | Glu | Ile | Ile | Asp | Arg | Glu | | | | | |
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<210> 4713

<211> 1324

<212> DNA

<213> Homo sapiens

<400> 4713

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<210> 4714

<211> 145

<212> PRT

<213> Homo sapiens

<400> 4714

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Val Gln Val Val Gly Arg Ala Phe Ala Arg Ala Leu Arg Gln Glu Phe
      35           40           45
Ala Ala Ser Arg Ala Ala Ala Asp Ala Arg Gly Arg Ala Gly His Arg
      50           55           60
Ser Ala Ala Ala Ser Asn Leu Ser Gly Leu Ser Leu Gln Glu Ala Gln
      65           70           75           80
Gln Ile Leu Asn Val Ser Lys Leu Ser Pro Glu Glu Val Gln Lys Asn
      85           90           95
Tyr Glu His Leu Phe Lys Val Asn Asp Lys Ser Val Gly Gly Ser Phe
      100           105           110
Tyr Leu Gln Ser Lys Val Val Arg Ala Lys Glu Arg Leu Asp Glu Glu
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Leu Lys Ile Gln Ala Gln Glu Asp Arg Glu Lys Gly Gln Met Pro His
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Thr
145

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<210> 4715

<211> 2051

<212> DNA

<213> Homo sapiens

<400> 4715

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840

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<210> 4716

<211> 239

<212> PRT

<213> Homo sapiens

<400> 4716

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<210> 4718

<211> 259

<212> PRT

<213> Homo sapiens

<400> 4718

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| Met | Arg | Ala | Ala | Ser | Pro | Pro | Ala | Ser | Ala | Ser | Asp | Leu | Ile | Glu | Gln |
| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Gln | Gln | Lys | Arg | Gly | Arg | Arg | Glu | His | Lys | Ala | Leu | Ile | Lys | Gln | Asp |
| | | 20 | | | | | | 25 | | | | 30 | | | |
| Asn | Leu | Asp | Ala | Phe | Asn | Glu | Arg | Asp | Pro | Tyr | Lys | Ala | Asp | Asp | Ser |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Arg | Glu | Glu | Glu | Glu | Asn | Asp | Asp | Asn | Ser | Leu | Glu | Gly | Glu | | |
| | 50 | | | | 55 | | | | 60 | | | | | | |
| Thr | Phe | Pro | Leu | Glu | Arg | Asp | Glu | Val | Met | Pro | Pro | Leu | Gln | His | |
| 65 | | | 70 | | | | | 75 | | | | | 80 | | |
| Pro | Gln | Thr | Asp | Arg | Leu | Thr | Cys | Pro | Lys | Gly | Leu | Pro | Trp | Ala | Pro |
| | | | 85 | | | | | 90 | | | | 95 | | | |
| Lys | Val | Arg | Glu | Lys | Asp | Ile | Glu | Met | Phe | Leu | Glu | Ser | Ser | Arg | Ser |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Lys | Phe | Ile | Gly | Tyr | Thr | Leu | Gly | Ser | Asp | Thr | Asn | Thr | Val | Val | Gly |
| | 115 | | | | | 120 | | | | | 125 | | | | |
| Leu | Pro | Arg | Pro | Ile | His | Glu | Ser | Ile | Lys | Thr | Leu | Lys | Gln | His | Lys |
| | 130 | | | | 135 | | | | | 140 | | | | | |
| Tyr | Thr | Ser | Ile | Ala | Glu | Val | Gln | Ala | Gln | Met | Lys | Glu | Glu | Tyr | Leu |
| 145 | | | | 150 | | | | 155 | | | | | | 160 | |
| Arg | Ser | Pro | Leu | Ser | Gly | Gly | Glu | Glu | Glu | Val | Glu | Gln | Val | Pro | Ala |
| | | | 165 | | | | 170 | | | | | | | 175 | |
| Glu | Thr | Leu | Tyr | Gln | Gly | Leu | Leu | Pro | Ser | Leu | Pro | Gln | Tyr | Met | Ile |
| | | 180 | | | | | 185 | | | | | 190 | | | |
| Ala | Leu | Leu | Lys | Ile | Leu | Leu | Ala | Ala | Ala | Pro | Thr | Ser | Lys | Ala | Lys |
| | 195 | | | | | 200 | | | | | 205 | | | | |
| Thr | Asp | Ser | Ile | Asn | Ile | Leu | Ala | Asp | Val | Leu | Pro | Glu | Glu | Met | Pro |
| | 210 | | | | 215 | | | | | | 220 | | | | |
| Thr | Thr | Val | Leu | Gln | Ser | Met | Lys | Leu | Gly | Val | Asp | Val | Asn | Arg | His |
| 225 | | | | 230 | | | | 235 | | | | | | 240 | |
| Lys | Glu | Val | Ile | Val | Lys | Ala | Ile | Ser | Ala | Ala | Leu | Leu | Leu | Leu | Leu |

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Lys His Phe

<210> 4719
 <211> 589
 <212> DNA
 <213> Homo sapiens

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<210> 4720
 <211> 196
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Ile Arg Lys Asn Phe Asp Glu Ala Ala Lys Val Leu Lys Phe Asn Cys
 50 55 60
 Glu Glu Asn Gln His Ser Asp Ser Cys Tyr Lys Leu Gly Ala Tyr Tyr
 65 70 75 80
 Val Thr Gly Lys Gly Leu Thr Gln Asp Leu Lys Ala Ala Ala Arg
 85 90 95
 Cys Phe Leu Met Ala Cys Glu Lys Pro Gly Lys Lys Ser Ile Ala Ala
 100 105 110
 Cys His Asn Val Gly Leu Leu Ala His Asp Gly Gln Val Asn Glu Asp
 115 120 125
 Gly Gln Pro Asp Leu Gly Lys Ala Arg Asp Tyr Tyr Thr Arg Ala Cys

| | | | | |
|---|-----|-----|-----|-----|
| 130 | | 135 | | 140 |
| Asp Gly Gly Tyr Thr Ser Ser Cys Phe Asn Leu Ser Ala Met Phe Leu | | | | |
| 145 | | 150 | 155 | 160 |
| Gln Gly Ala Pro Gly Phe Pro Lys Asp Met Asp Leu Ala Cys Lys Tyr | | | | |
| | 165 | 170 | 175 | |
| Ser Met Lys Ala Cys Asp Leu Gly His Ile Trp Ala Cys Ala Asn Ala | | | | |
| | 180 | 185 | 190 | |
| Ser Arg Met Tyr | | | | |
| | 195 | | | |

<210> 4721

<211> 1385

<212> DNA

<213> Homo sapiens

<400> 4721

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1140

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<210> 4722

<211> 285

<212> PRT

<213> Homo sapiens

<400> 4722

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| 1 | | | | 5 | | | | | 10 | | | | 15 | | |
| Ser | Asp | Glu | Glu | Pro | Ala | Leu | Ser | Ser | Ser | Glu | Asp | Glu | Val | Asp | Val |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Leu | Leu | His | Gly | Thr | Pro | Asp | Gln | Lys | Arg | Lys | Leu | Ile | Arg | Glu | Cys |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Thr | Gly | Glu | Ser | Glu | Ser | Ser | Ser | Glu | Asp | Glu | Phe | Glu | Lys | Glu |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Met | Glu | Ala | Glu | Leu | Asn | Ser | Thr | Met | Lys | Thr | Met | Glu | Asp | Lys | Leu |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Ser | Ser | Leu | Gly | Thr | Gly | Ser | Ser | Ser | Gly | Asn | Gly | Lys | Val | Ala | Thr |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ala | Pro | Thr | Arg | Tyr | Tyr | Asp | Asp | Ile | Tyr | Phe | Asp | Ser | Asp | Ser | Glu |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Asp | Glu | Asp | Arg | Ala | Val | Gln | Val | Thr | Lys | Lys | Lys | Lys | Lys | Lys | Gln |
| | | 115 | | | | | 120 | | | | | | 125 | | |
| His | Lys | Ile | Pro | Thr | Asn | Asp | Glu | Leu | Leu | Tyr | Asp | Pro | Glu | Lys | Asp |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asn | Arg | Asp | Gln | Ala | Trp | Val | Asp | Ala | Gln | Arg | Arg | Gly | Tyr | His | Gly |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Leu | Gly | Pro | Gln | Arg | Ser | Arg | Gln | Gln | Gln | Pro | Val | Pro | Asn | Ser | Asp |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Ala | Val | Leu | Asn | Cys | Pro | Ala | Cys | Met | Thr | Thr | Leu | Cys | Leu | Asp | Cys |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Gln | Arg | His | Glu | Ser | Tyr | Lys | Thr | Gln | Tyr | Arg | Ala | Met | Phe | Val | Met |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Asn | Cys | Ser | Ile | Asn | Lys | Glu | Glu | Val | Leu | Arg | Tyr | Lys | Ala | Ser | Glu |
| | 210 | | | | 215 | | | | | | 220 | | | | |
| Asn | Arg | Lys | Lys | Arg | Arg | Val | His | Lys | Lys | Met | Arg | Ser | Asn | Arg | Glu |
| 225 | | | | 230 | | | | | | 235 | | | | 240 | |
| Asp | Ala | Ala | Glu | Lys | Ala | Glu | Thr | Asp | Val | Glu | Glu | Ile | Tyr | His | Pro |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Val | Met | Cys | Thr | Glu | Cys | Ser | Thr | Glu | Val | Ala | Val | Tyr | Asp | Lys | Asp |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Glu | Val | Phe | His | Phe | Phe | Asn | Val | Leu | Ala | Ser | His | Ser | | | |
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<212> DNA
<213> Homo sapiens

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<210> 4724
<211> 54
<212> PRT
<213> Homo sapiens

<400> 4724

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Phe Leu Pro Ala Gly Asp
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<210> 4725

<211> 366

<212> DNA

<213> Homo sapiens

<400> 4725

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<210> 4726

<211> 122

<212> PRT

<213> Homo sapiens

<400> 4726

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          20           25           30
His Val His Val Tyr Ser Arg Leu Cys Ala Cys Ala Arg Val Tyr Met
          35           40           45
His Met Cys Thr Gly Ala Cys Ala Cys Val Asn Thr Cys Ser His Val
          50           55           60
Cys Thr Cys Xaa Ser Cys Pro Cys Xaa Tyr Val His Thr Cys Leu Cys
          65           70           75           80
Met His Ala Cys Ile Ala Val Cys Pro Tyr Pro His Val Arg Ile His
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Met Arg Leu Cys Leu His Leu Cys Met His Ala Ser Val Leu Leu Arg
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<210> 4727

<211> 2031

<212> DNA

<213> Homo sapiens

<400> 4727

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1140
gaattccagg cagagtttgt gtctaccctt gagctggctg cccaatctga tttcatcgtc
1200
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1440

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<210> 4728

<211> 328

<212> PRT

<213> Homo sapiens

<400> 4728

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Pro | Val | Arg | Leu | Met | Lys | Val | Phe | Val | Thr | Arg | Arg | Ile | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Glu | Gly | Arg | Val | Ala | Leu | Ala | Arg | Ala | Ala | Asp | Cys | Glu | Val | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Trp | Asp | Ser | Asp | Glu | Pro | Ile | Pro | Ala | Lys | Glu | Leu | Glu | Arg | Gly |
| | 35 | | | | | 40 | | | | | | 45 | | | |
| Val | Ala | Gly | Ala | His | Gly | Leu | Leu | Cys | Leu | Leu | Ser | Asp | His | Val | Asp |
| 50 | | | | | 55 | | | | | | 60 | | | | |
| Lys | Arg | Ile | Leu | Asp | Ala | Ala | Gly | Ala | Asn | Leu | Lys | Val | Ile | Ser | Thr |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Met | Ser | Val | Gly | Ile | Asp | His | Leu | Ala | Leu | Asp | Glu | Ile | Lys | Lys | Arg |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Gly | Ile | Arg | Val | Gly | Tyr | Thr | Pro | Asp | Val | Leu | Thr | Asp | Thr | Thr | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Glu | Leu | Ala | Val | Ser | Leu | Leu | Leu | Thr | Thr | Cys | Arg | Arg | Leu | Pro | Glu |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Ala | Ile | Glu | Glu | Val | Lys | Asn | Gly | Gly | Trp | Thr | Ser | Trp | Lys | Pro | Leu |
| | | | 130 | | | 135 | | | | | 140 | | | | |
| Trp | Leu | Cys | Gly | Tyr | Gly | Leu | Thr | Gln | Ser | Thr | Val | Gly | Ile | Ile | Gly |
| 145 | | | | 150 | | | | | | 155 | | | | 160 | |
| Leu | Gly | Arg | Ile | Gly | Gln | Ala | Ile | Ala | Arg | Arg | Leu | Lys | Pro | Phe | Gly |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Val | Gln | Arg | Phe | Leu | Tyr | Thr | Gly | Arg | Gln | Pro | Arg | Pro | Glu | Glu | Ala |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ala | Glu | Phe | Gln | Ala | Glu | Phe | Val | Ser | Thr | Pro | Glu | Leu | Ala | Ala | Gln |
| | | | 195 | | | | 200 | | | | | 205 | | | |
| Ser | Asp | Phe | Ile | Val | Val | Ala | Cys | Ser | Leu | Thr | Pro | Ala | Thr | Glu | Gly |

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      210              215              220
Leu Cys Asn Lys Asp Phe Phe Gln Lys Met Lys Glu Thr Ala Val Phe
225              230              235              240
Ile Asn Ile Ser Arg Gly Asp Val Val Asn Gln Asp Asp Leu Tyr Gln
      245              250              255
Ala Leu Ala Ser Gly Lys Ile Ala Ala Gly Leu Asp Val Thr Ser
      260              265              270
Pro Glu Pro Leu Pro Thr Asn His Pro Leu Leu Thr Lys Asn Cys
      275              280              285
Val Ile Leu Pro His Ile Gly Ser Ala Thr His Arg Thr Arg Asn Thr
      290              295              300
Met Ser Leu Leu Ala Ala Asn Asn Leu Leu Ala Gly Leu Arg Gly Glu
305              310              315              320
Pro Met Pro Ser Glu Leu Lys Leu
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<210> 4729

<211> 753

<212> DNA

<213> Homo sapiens

<400> 4729

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120
cctgtgtgtg gatttgggga aattttttgt ttgtttttta tgatttgtat ttgactgaga
180
gaaaccact gaagacgtct cgttgagaat agagaccacc gaggcgcact cgcggggccgc
240
tgcaccacc gccaggaca aaaggagccc agcgtacta gctgcaccgc attcctccca
300
gtgcttagca tgaagaaggc cgaaatggga cgattcagta tttccccgga tgaagacagc
360
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420
aaaagccatt atgcagatgt agatcctgaa aaccagaact ttttacttga atcgaatttg
480
gggaagaaga agtatgaaac agaatttcat ccagggtacta cttccttttg aatgtcagta
540
tttaactctg gcaatcgcat tgtgggcagt ggaatccttg ggctttctta tgccatggct
600
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660
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<210> 4730

<211> 148

<212> PRT

<213> Homo sapiens

<400> 4730

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 20           25           30
Lys Gln Ala Ala Leu Lys Ser His Tyr Ala Asp Val Asp Pro Glu Asn
 35           40           45
Gln Asn Phe Leu Leu Glu Ser Asn Leu Gly Lys Lys Tyr Glu Thr
 50           55           60
Glu Phe His Pro Gly Thr Thr Ser Phe Gly Met Ser Val Phe Asn Leu
 65           70           75           80
Ser Asn Ala Ile Val Gly Ser Gly Ile Leu Gly Leu Ser Tyr Ala Met
 85           90           95
Ala Asn Thr Gly Ile Ala Leu Phe Ile Ile Leu Leu Thr Phe Val Ser
100           105           110
Ile Phe Ser Leu Tyr Ser Val His Leu Leu Leu Lys Thr Ala Asn Glu
115           120           125
Gly Gly Ser Leu Leu Tyr Glu Gln Leu Gly Tyr Lys Ala Ser Gly Leu
130           135           140
Val Gly Lys Leu
145

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<210> 4731

<211> 2417

<212> DNA

<213> Homo sapiens

<400> 4731

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120
ttggaagaca gctgaggaaa aaggcgcaa taagacaaac tcacagatgg gatttatctc
180
cctcttgctt tttttttttt tttttgccc tggtaaaagt cagaacctgg gatgaccaga
240
aagtaacagg acagatttct ccagcaaat cagtctccac aaccaaata atattgttct
300
ccaaggagtc aagctataga ctcaaatga caacgtggcc atggctcaaa acactctctg
360
aaattacaaa attgctttct gagccaattt aaaagtcaca tgattgaatc caagctattt
420
tactttaaat ggtccttttg ctttgcaact gagacctgcg ttggccacag acgtcattcg
480
ctggactccc tgggcaacta atgagtgtct agcatcctta aggetgtctc acacacagcc
540
ccagactctg aatatgattc caagaaatat tctgaaaaaa gtcacatcgc tggaataaac
600
agtttcccaa gataactgct ttgaaaacca gtcccgtagg tttctaaaag cccacctacg
660
gcaccttctt tccatcagag tctgctgccc ggggtggctg ggaaggagg agatacaaa
720
aagaaagtag gcgatgcac tgggtcggtt cccaagccac cctcacctc caagaaggca
780

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tgaatggaac aaccccgaga acagagcacg tgtgaagaac caacacgaca ggcacgggat
840
ggcagcactg gtggaaggga ggcaaggagg ccgcccagtgc caaggaggag aggggggcaca
900
agcgcaggga ggggaaggtgg caccaaaacc tagtaagaac aaagcaaac caccgtggtt
960
tccacactgc tctctccctt tattcctctc tttcctgccc tgtataccaa cggcataaga
1020
agcctgcaca aagagaaaaa tccgtatatc cagttatatc tacacggtcc aaactggggg
1080
cggggggaat tcaaacagct ttctaaagac gagacggcag tgaaaactct gagggagagg
1140
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1200
atgaggacct gaagctgggg gttgtcttgg gaagtggagg ggggtgggaa acaccatcag
1260
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1320
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1380
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1440
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1800
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1920
aacagctctg cttatcgaca tgcacgcagc ccaggctccc ctagatccct ggaggctcca
1980
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2040
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2100
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2160
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2220
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2280
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2340
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2400

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<210> 4732

<211> 129

<212> PRT

<213> Homo sapiens

<400> 4732

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Ile | Ser | Arg | Ala | Val | Leu | Gly | Glu | Lys | Glu | Gly | Gly | Leu | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Val | Ala | Pro | Cys | Gln | Pro | Ala | Leu | Arg | Glu | Asp | Arg | Val | Ser | His |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Arg | Met | Ala | Gly | His | Val | Ser | Val | Leu | Val | Ser | His | Phe | Pro | Pro |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Ser | Val | Thr | Tyr | Leu | Gly | Ile | Pro | Gln | Gly | Leu | Glu | Cys | Asp | Cys | |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Pro | Leu | Pro | Ser | Cys | Leu | Gly | Tyr | Lys | Ser | Trp | Pro | Tyr | Val | Pro | Ala |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Val | Arg | Gly | Ser | Gly | Asn | Pro | Thr | Gln | Pro | Pro | Val | Leu | Gly | Trp | Ser |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Val | Ser | Ile | His | Pro | Leu | Val | Val | Ile | Glu | Ala | Ala | Leu | Pro | Val | Leu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gly | Glu | Asp | Ile | Trp | Ala | Thr | Arg | Ala | Pro | Leu | Ala | Pro | Ser | Arg | Arg |
| | | 115 | | | | | 120 | | | | | | 125 | | |

Lys

<210> 4733

<211> 543

<212> DNA

<213> Homo sapiens

<400> 4733

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120
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180
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240
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300
catagtgtgt ctgttcaagt tgtaacatgg aatgagcagt atcagaagtt gactaccagt
360
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420
atcaacaatc gaaataaatc agttgttcgc agtatgagct ggaatgctga cggacagaa
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540
tgg
543

<210> 4734
 <211> 181
 <212> PRT
 <213> Homo sapiens

<400> 4734
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 1 5 10 15
 Val Glu Gly Leu Ser Gly Arg Arg Asp Pro Leu Gly Asp Pro Thr Met
 20 25 30
 Phe Phe Tyr Leu Ser Lys Lys Ile Ser Ile Pro Asn Asn Val Lys Leu
 35 40 45
 Gln Cys Val Ser Trp Asn Lys Glu Gln Gly Phe Ile Ala Cys Gly Gly
 50 55 60
 Glu Asp Gly Leu Leu Lys Val Leu Lys Leu Glu Thr Gln Thr Asp Asp
 65 70 75 80
 Ala Lys Leu Arg Gly Leu Ala Ala Pro Ser Asn Leu Ser Met Asn Gln
 85 90 95
 Thr Leu Glu Gly His Ser Gly Ser Val Gln Val Val Thr Trp Asn Glu
 100 105 110
 Gln Tyr Gln Lys Leu Thr Thr Ser Asp Glu Asn Gly Leu Ile Ile Val
 115 120 125
 Trp Met Leu Tyr Lys Gly Ser Trp Ile Glu Glu Met Ile Asn Asn Arg
 130 135 140
 Asn Lys Ser Val Val Arg Ser Met Ser Trp Asn Ala Asp Gly Gln Lys
 145 150 155 160
 Ile Cys Ile Val Tyr Glu Asp Gly Ala Val Ile Val Gly Ser Val Asp
 165 170 175
 Gly Asn Arg Ile Trp
 180

<210> 4735
 <211> 300
 <212> DNA
 <213> Homo sapiens

<400> 4735
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 120
 aggagctgcc ggccggtctg ccaagtccag cagcaatggg cctgtggcca gtgcacagta
 180
 cgtgtccca gcaaaagcct cagctttgca gcagcagcag tactaccagt ggtaccagca
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 300

<210> 4736
 <211> 93
 <212> PRT
 <213> Homo sapiens

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<400> 4736
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Glu Asn Pro Glu Trp Glu Lys Ala Arg Gln Ala Leu Ala Ser Ile Ser
  20             25             30
Lys Ser Gly Ala Ala Gly Gly Ser Ala Lys Ser Ser Ser Asn Gly Pro
  35             40             45
Val Ala Ser Ala Gln Tyr Val Ser Gln Ala Lys Ala Ser Ala Leu Gln
  50             55             60
Gln Gln Gln Tyr Tyr Gln Trp Tyr Gln Gln Asp Asn Tyr Ala Tyr Pro
  65             70             75             80
Tyr Ser Tyr Tyr Tyr Pro Met Pro Pro Gly Pro Gly Met
  85             90

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<210> 4737
<211> 2602
<212> DNA
<213> Homo sapiens

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<400> 4737
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  120
caagctcggc ccctttcaac tctgccaaga atggctccca cctggctctc agacattccc
  180
ctgggtccaa cccaggcca tcaagatgtc tcagagaggg ggctagacac ccagagacct
  240
caagtgacca tgtgggaacg ggaatgttcc agtgacaggg agggagccagg cggagagggc
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  360
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  420
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  480
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  780
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  840
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  900
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  960
cgggtgcaga gcctcacaca catcctcgcc ctgcaggagg agggagctgac caggaaggtt
  1020

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caaccttcag attcctctgga gcctgagttt accaggaagt gccagtcctt gctgaaccgc
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1260
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1680
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1980
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2040
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2100
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2160
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2602

<210> 4738

<211> 756

<212> PRT

<213> Homo sapiens

<400> 4738

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20          25
Thr Met Trp Glu Arg Asp Val Ser Ser Asp Arg Gln Glu Pro Gly Arg
35          40          45
Arg Gly Arg Ser Trp Gly Leu Glu Gly Ser Gln Ala Leu Ser Gln Gln
50          55          60
Ala Glu Val Ile Val Arg Gln Leu Gln Glu Leu Arg Arg Leu Glu Glu
65          70          75          80
Glu Val Arg Leu Leu Arg Glu Thr Ser Leu Gln Gln Lys Met Arg Leu
85          90          95
Glu Ala Gln Ala Met Glu Leu Glu Ala Leu Ala Arg Ala Glu Lys Ala
100          105          110
Gly Arg Ala Glu Ala Glu Gly Leu Arg Ala Ala Leu Ala Gly Ala Glu
115          120          125
Val Val Arg Lys Asn Leu Glu Glu Gly Arg Gln Arg Glu Leu Glu Glu
130          135          140
Val Gln Arg Leu His Gln Glu Gln Leu Ser Ser Leu Thr Gln Ala His
145          150          155          160
Glu Glu Ala Leu Ser Ser Leu Thr Ser Lys Ala Glu Gly Leu Glu Lys
165          170          175
Ser Leu Ser Ser Leu Glu Thr Arg Arg Ala Gly Glu Ala Lys Glu Leu
180          185          190
Ala Glu Ala Gln Arg Glu Ala Glu Leu Leu Arg Lys Gln Leu Ser Lys
195          200          205
Thr Gln Glu Asp Leu Glu Ala Gln Val Thr Leu Val Glu Asn Leu Arg
210          215          220
Lys Tyr Val Gly Glu Gln Val Pro Ser Glu Val His Ser Gln Thr Trp
225          230          235          240
Glu Leu Glu Arg Gln Lys Leu Leu Glu Thr Met Gln Leu Leu Gln Glu
245          250          255
Asp Arg Asp Ser Leu His Ala Thr Ala Glu Leu Leu Gln Val Arg Val
260          265          270
Gln Ser Leu Thr His Ile Leu Ala Leu Gln Glu Glu Glu Leu Thr Arg
275          280          285
Lys Val Gln Pro Ser Asp Ser Leu Glu Pro Glu Phe Thr Arg Lys Cys
290          295          300
Gln Ser Leu Leu Asn Arg Trp Arg Glu Lys Val Phe Ala Leu Met Val
305          310          315          320
Gln Leu Lys Ala Gln Glu Leu Glu His Ser Asp Ser Val Lys Gln Leu
325          330          335
Lys Gly Gln Val Ala Ser Leu Gln Glu Lys Val Thr Ser Gln Ser Gln
340          345          350
Glu Gln Ala Ile Leu Gln Arg Ser Leu Gln Asp Lys Ala Ala Glu Val
355          360          365
Glu Val Glu Arg Met Gly Ala Lys Gly Leu Gln Leu Glu Leu Ser Arg

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370 375 380
 Ala Gln Glu Ala Arg Arg Trp Trp Gln Gln Gln Thr Ala Ser Ala Glu
 385 390 395 400
 Glu Gln Leu Arg Leu Val Val Asn Ala Val Ser Ser Ser Gln Ile Trp
 405 410 415
 Leu Glu Thr Thr Met Ala Lys Val Glu Gly Ala Ala Ala Gln Leu Pro
 420 425 430
 Ser Leu Asn Asn Arg Leu Ser Tyr Ala Val Arg Lys Val His Thr Ile
 435 440 445
 Arg Gly Leu Ile Ala Arg Lys Leu Ala Leu Ala Gln Leu Arg Gln Glu
 450 455 460
 Ser Cys Pro Leu Pro Pro Pro Val Thr Asp Val Ser Leu Glu Leu Gln
 465 470 475 480
 Gln Leu Arg Glu Glu Arg Asn Arg Leu Asp Ala Glu Leu Gln Leu Ser
 485 490 495
 Ala Arg Leu Ile Gln Gln Glu Val Gly Arg Ala Arg Glu Gln Gly Glu
 500 505 510
 Ala Glu Arg Gln Gln Leu Ser Lys Val Ala Gln Gln Leu Glu Gln Glu
 515 520 525
 Leu Gln Gln Thr Gln Glu Ser Leu Ala Ser Leu Gly Leu Gln Leu Glu
 530 535 540
 Val Ala Arg Gln Gly Gln Gln Glu Ser Thr Glu Glu Ala Ala Ser Leu
 545 550 555 560
 Arg Gln Glu Leu Thr Gln Gln Gln Glu Tyr Gly Gln Ala Leu Gln
 565 570 575
 Glu Lys Val Ala Glu Val Glu Thr Arg Leu Arg Glu Gln Leu Ser Asp
 580 585 590
 Thr Glu Arg Arg Leu Asn Glu Ala Arg Arg Glu His Ala Lys Ala Val
 595 600 605
 Val Ser Leu Arg Gln Ile Gln Arg Arg Ala Ala Gln Glu Lys Glu Arg
 610 615 620
 Ser Gln Glu Leu Arg Arg Leu Gln Glu Glu Ala Arg Lys Glu Glu Gly
 625 630 635 640
 Gln Arg Leu Ala Arg Arg Leu Gln Glu Leu Glu Arg Asp Lys Asn Leu
 645 650 655
 Met Leu Ala Thr Leu Gln Gln Glu Gly Leu Leu Ser Arg Tyr Lys Gln
 660 665 670
 Gln Arg Leu Leu Thr Val Leu Pro Ser Leu Leu Asp Lys Lys Ser
 675 680 685
 Val Val Ser Ser Pro Arg Pro Pro Glu Cys Ser Ala Ser Ala Pro Val
 690 695 700
 Ala Ala Ala Val Pro Thr Arg Glu Ser Ile Lys Gly Ser Leu Ser Val
 705 710 715 720
 Leu Leu Asp Asp Leu Gln Asp Leu Ser Glu Ala Ile Ser Lys Glu Glu
 725 730 735
 Ala Val Cys Gln Gly Asp Asn Leu Asp Arg Cys Ser Ser Ser Asn Pro
 740 745 750
 Gln Met Ser Ser
 755

<210> 4739

<211> 684

<212> DNA

<213> Homo sapiens

<400> 4739
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 120
 tagccctctc tcctgctcct ttaaaactctg aactcttagg atggggagaat gggaactttt
 180
 gcagggttag attcatagtg aaatcgggtc aagaagtgat cagatgcaaa gcacaggggca
 240
 gttcattact ataccatggc tgagggtctt ctgggaccca ggccctgggc tcagcaactg
 300
 gctcagcttg caccttgag cctgccagag cctccacag caggtgtctt caggcaaggc
 360
 tgtgtgttg tgccagacg ccttctgacc agcgtgtctt cttgaccaca gatcccttgg
 420
 ccaagcagga ggaaccatt agcagcctga ggagctggct ggctgggagc ctcggggacc
 480
 gccacgcctt gctccagct caccacaag atgtggacag ctctgtgtct catttggatt
 540
 ttctccttgt ctttatctga aagccatgcg gcattccaac atccacgtaa gtgagaaagc
 600
 tgtgtgactg ctggatgggc ccacgggtggc cacaagcat gctgagccct tgaagcagc
 660
 atctgcaaac ccaggccaac gcgt
 684

<210> 4740
 <211> 119
 <212> PRT
 <213> Homo sapiens

<400> 4740
 Met Leu Leu Ser Arg Ala Gln His Leu Trp Pro Pro Trp Ala His
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 Pro Ala Val Thr Gln Leu Ser His Leu Arg Gly Ser Leu Asp Ala Ala
 20 25 30
 Trp Leu Ser Asp Lys Asp Lys Glu Lys Ile Gln Met Ser Thr Arg Ala
 35 40 45
 Val His Ile Leu Trp Val Ser Trp Glu Gln Gly Trp Ala Val Pro Glu
 50 55 60
 Ala Pro Ser Gln Pro Ala Pro Gln Ala Ala Asn Gly Ser Leu Leu Leu
 65 70 75 80
 Gly Gln Gly Ile Cys Gly Gln Glu Ser Thr Leu Val Arg Arg Arg Leu
 85 90 95
 Ala Ser Asn Thr Gln Pro Cys Leu Arg Ala Pro Ala Val Glu Gly Ser
 100 105 110
 Gly Arg Val Gln Gly Ala Asp
 115

<210> 4741
 <211> 411
 <212> DNA
 <213> Homo sapiens

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<400> 4741
aaattactt ctctcaggtc aacaggtgtt tttctttctt tttttttttt tttttccctt
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ttttttctta aaaaaaaaa aggggttttt ctttgccccc cccgtteccc ccccttcccc
120
ttccgaaaaa aagaggggaa ttttttaaaa aaccgaaaag gggggaaggg ggggggtata
180
aaagataaaa ttggtttttt tgggggggaa aatttgaca cccacccctc gggttttttt
240
tccccacccc aaaaaatttt aaaagggggc ctaaaaaaa attttttctt taattccaa
300
ataaaaaaaa aatgggggttc caaatcatt gaaaaatag ggggactcca aaaccttgaa
360
ttttcccaag ggggaccact aaaatttacc ctttttttgg ggttttgggg g
411

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<210> 4742
<211> 109
<212> PRT
<213> Homo sapiens

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<400> 4742
Met Ile Leu Glu Pro His Phe Phe Phe Ile Trp Lys Leu Lys Lys Lys
1 5 10 15
Phe Phe Leu Gly Pro Pro Phe Lys Ile Phe Trp Gly Gly Lys Lys
20 25 30
Pro Glu Gly Gly Val Ser Lys Phe Ser Pro Pro Lys Asn Gln Ile Leu
35 40 45
Ser Phe Ile Pro Pro Pro Phe Pro Phe Gly Phe Phe Lys Lys Phe
50 55 60
Pro Ser Phe Phe Arg Lys Gly Lys Gly Glu Arg Gly Gly Gln Arg
65 70 75 80
Lys Thr Pro Phe Phe Phe Leu Arg Lys Lys Arg Glu Lys Lys Lys Lys
85 90 95
Lys Glu Arg Lys Thr Pro Val Asp Leu Arg Glu Val Asn
100 105

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<210> 4743
<211> 473
<212> DNA
<213> Homo sapiens

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<400> 4743
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caaccggccc cacaattctc agcagtgcca agaagaagga taaaagagtt caaggtggaa
120
gagtgattga gtcccggtat ctgcagtatg aaaagaagac aacccaaaag gctcctgcag
180
gagatgggtc acagaccga ggggaagatgt ctgaaggtgg aaggaaatcc agcctgctcc
240
agaaaagcaa agcagatagc agtggggctg gaaaggggtg cctgcagtc acgttgctgg
300

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aagggcatgg cacagctcca cctgacctgg atctctctgc tattaatgac aaaagcatcg
 360
 tcaaaaagac gccacagtta gcaaaaacaa tatcaagaa acctgagtcac acatcatttt
 420
 ctgcccctcg gaaaaagagc ccggatttat ctgaagcgaa tggaatgatg gag
 473

<210> 4744
 <211> 150
 <212> PRT
 <213> Homo sapiens

<400> 4744
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 1 5 10 15
 Thr Asn Ser Ser Ser Ala Lys Lys Lys Asp Lys Arg Val Gln Gly Gly
 20 25 30
 Arg Val Ile Glu Ser Arg Tyr Leu Gln Tyr Glu Lys Lys Thr Thr Gln
 35 40 45
 Lys Ala Pro Ala Gly Asp Gly Ser Gln Thr Arg Gly Lys Met Ser Glu
 50 55 60
 Gly Gly Arg Lys Ser Ser Leu Leu Gln Lys Ser Lys Ala Asp Ser Ser
 65 70 75 80
 Gly Val Gly Lys Gly Asp Leu Gln Ser Thr Leu Leu Glu Gly His Gly
 85 90 95
 Thr Ala Pro Pro Asp Leu Asp Leu Ser Ala Ile Asn Asp Lys Ser Ile
 100 105 110
 Val Lys Lys Thr Pro Gln Leu Ala Lys Thr Ile Ser Lys Lys Pro Glu
 115 120 125
 Ser Thr Ser Phe Ser Ala Pro Arg Lys Lys Ser Pro Asp Leu Ser Glu
 130 135 140
 Ala Asn Gly Met Met Glu
 145 150

<210> 4745
 <211> 666
 <212> DNA
 <213> Homo sapiens

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 120
 attcagaaaag aactttggcg aattcaggat gtcattggaag ggctgagtaa acataagcag
 180
 caaagaggta ctacagaaat aggtatgata ggatcaaagc ctttctcaac agttaagtc
 240
 aaaaatgagg gtccagatta tagactctac aagagtgaac cagagttaac aacagtggca
 300
 gaagttgatg aatctaattg agaagaaaaa tcagaacctg ttccagagat agaaaattca
 360
 gttgttaaag gttccactt tcctgttgga gtagtccctc caagagcaaa atcaccaaca
 420

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cccgaatctt cgacaatagc ttcctatgta accttgagga aaactaagaa gatgatggat
480
ctaagaacgg aaagaccaag aagtgcagtg gaacagctct gtttggtga aagtactcga
540
ccaaggatga ctgtggaaga gcaaatggaa agaataagaa gatatacaaa agcgtgcctg
600
agggagaaga aaaaaggggtt aaatgttatc ggtgcttcag accagtcacc cttacaaagc
660
ccttaa
666

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<210> 4746
<211> 221
<212> PRT
<213> Homo sapiens

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<400> 4746
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Asn Gln Met Gln Glu Gln Leu Asp His Leu Gly Glu Val Gln Thr Glu
20 25 30
Ser Ala Gly Ile Gln Arg Ala Gln Ile Gln Lys Glu Leu Trp Arg Ile
35 40 45
Gln Asp Val Met Glu Gly Leu Ser Lys His Lys Gln Gln Arg Gly Thr
50 55 60
Thr Glu Ile Gly Met Ile Gly Ser Lys Pro Phe Ser Thr Val Lys Tyr
65 70 75 80
Lys Asn Glu Gly Pro Asp Tyr Arg Leu Tyr Lys Ser Glu Pro Glu Leu
85 90 95
Thr Thr Val Ala Glu Val Asp Glu Ser Asn Gly Glu Glu Lys Ser Glu
100 105 110
Pro Val Ser Glu Ile Glu Thr Ser Val Val Lys Gly Ser His Phe Pro
115 120 125
Val Gly Val Val Pro Pro Arg Ala Lys Ser Pro Thr Pro Glu Ser Ser
130 135 140
Thr Ile Ala Ser Tyr Val Thr Leu Arg Lys Thr Lys Lys Met Met Asp
145 150 155 160
Leu Arg Thr Glu Arg Pro Arg Ser Ala Val Glu Gln Leu Cys Leu Ala
165 170 175
Glu Ser Thr Arg Pro Arg Met Thr Val Glu Glu Gln Met Glu Arg Ile
180 185 190
Arg Arg Tyr Gln Gln Ala Cys Leu Arg Glu Lys Lys Gly Leu Asn
195 200 205
Val Ile Gly Ala Ser Asp Gln Ser Pro Leu Gln Ser Pro
210 215 220

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<210> 4747
<211> 1091
<212> DNA
<213> Homo sapiens

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<400> 4747
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60

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acgcatactg acgccaaaat ccgtgctgaa aatggaacag ggtccagccc tcggggctcct
 120
 ggctgcagcc tcgcgcactt tgccctgcgaa cagaacctgc tgcgcgggcc agatggctct
 180
 gcttccttcc tgcaaggtag cacctctgtc ctggcgggtg tgtacgggcc ggccgaggtg
 240
 aaggctcagca aagagatttt caacaaggcc acactcgaag tgatcctgag gcccaagatt
 300
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 360
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 420
 gaggcggttg tgctgggcac gttgcacccc cgcacctcca tcaccgtggt gctgcaggtt
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 660
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 720
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 840
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 900
 ccttgccctc ctgacccatg ggctccttga gctgcagct ctgtaaccac agggctcctg
 960
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 1091

<210> 4748

<211> 273

<212> PRT

<213> Homo sapiens

<400> 4748

Xaa Cys Gln Ala Glu Val Thr Thr Ala Ser Ala Arg Gly Leu Gly Ala
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 20 25 30
 Thr Gly Ser Ser Pro Arg Gly Pro Gly Cys Ser Leu Arg His Phe Ala
 35 40 45
 Cys Glu Gln Asn Leu Leu Ser Arg Pro Asp Gly Ser Ala Ser Phe Leu
 50 55 60
 Gln Gly Asp Thr Ser Val Leu Ala Gly Val Tyr Gly Pro Ala Glu Val
 65 70 75 80
 Lys Val Ser Lys Glu Ile Phe Asn Lys Ala Thr Leu Glu Val Ile Leu

gacagtccca gcaactgcccc tgctcagctg gggaagaaa gcaaagagtt tgaattctca
720
cagttgcccc tcaaagtgga gttcctggag tgcagtgcc aggggtggaag aggggacgtg
780
ggctctgctg acatccagga ctggagaaa tggctggcta aaattgcctg agaggcagct
840
ctaaagcaca agacctggat gtgtgacaca cagttttgga aaaaggctg tggtagtctg
900
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1020
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1080
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1140
gattgagaata tggccatcac ctgaaaagtt ttcttatctt ctgtgctttt ggtccctgga
1200
aacaatccg cctatgtatg aagctagtgt atttccagtt gcaactattc cagttgcctc
1260
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1320
gttatgaagt tccccacat gtgaagacag gtacaaaata gcagagccaa gcagacagtg
1380
ggctctttct tcattagctc agtgacttgt ccactctgt cttagcactt acgtttcaaa
1440
agcttgtcac aaaccttgg agtcattccc agataataga actggaaatg ataaatcccc
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1620
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1860
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1920
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1980
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2040
tgcattgaga gccatggtag gagaggccca cagttctctg gagcatgcag caggggcacc
2100
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2160
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2196

<210> 4750

<211> 276
 <212> PRT
 <213> Homo sapiens

<400> 4750
 Xaa Arg Val Ser Ser Met Ala Ser Ala Asp Ser Arg Arg Leu Ala Asp
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 Gly Gly Gly Ala Gly Gly Thr Phe Gln Pro Tyr Leu Asp Thr Leu Arg
 20 25 30
 Gln Glu Leu Gln Gln Thr Asp Pro Thr Leu Leu Ser Val Val Val Ala
 35 40 45
 Val Leu Ala Val Leu Leu Thr Leu Val Phe Trp Lys Leu Ile Arg Ser
 50 55 60
 Arg Arg Ser Ser Gln Arg Ala Val Leu Leu Val Gly Leu Cys Asp Ser
 65 70 75 80
 Gly Lys Thr Leu Leu Phe Val Arg Leu Leu Thr Gly Leu Tyr Arg Asp
 85 90 95
 Thr Gln Thr Ser Ile Thr Asp Ser Cys Ala Val Tyr Arg Val Asn Asn
 100 105 110
 Asn Arg Gly Asn Ser Leu Thr Leu Ile Asp Leu Pro Gly His Glu Ser
 115 120 125
 Leu Arg Leu Gln Phe Leu Glu Arg Phe Lys Ser Ser Ala Arg Ala Ile
 130 135 140
 Val Phe Val Val Asp Ser Ala Ala Phe Gln Arg Glu Val Lys Asp Val
 145 150 155 160
 Ala Glu Phe Leu Tyr Gln Val Leu Ile Asp Ser Met Gly Leu Lys Asn
 165 170 175
 Thr Pro Ser Phe Leu Ile Ala Cys Asn Lys Gln Asp Ile Ala Met Ala
 180 185 190
 Lys Ser Ala Lys Leu Ile Gln Gln Gln Leu Glu Lys Glu Leu Asn Thr
 195 200 205
 Leu Arg Val Thr Arg Ser Ala Ala Pro Ser Thr Leu Asp Ser Ser Ser
 210 215 220
 Thr Ala Pro Ala Gln Leu Gly Lys Lys Gly Lys Glu Phe Glu Phe Ser
 225 230 235 240
 Gln Leu Pro Leu Lys Val Glu Phe Leu Glu Cys Ser Ala Lys Gly Gly
 245 250 255
 Arg Gly Asp Val Gly Ser Ala Asp Ile Gln Asp Leu Glu Lys Trp Leu
 260 265 270
 Ala Lys Ile Ala
 275

<210> 4751
 <211> 2777
 <212> DNA
 <213> Homo sapiens

<400> 4751
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 120
 acctttctcc acaggttcga cccaagcctg tggccagaa taacattcct attgccccca
 180

gcaccacctc ccatgtctgc agctcctcag cttatccaga ggcccgtcat gctgaccaag
240
ttcaccccca caaccttcc cacatcccag aattccatcc acccgtccg tgtcgtcaat
300
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360
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420
gaaaaacaga cagttaaatc tcacacagaa acagatgaga aacaaacaga gagccgcacc
480
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540
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660
cgtaagaaga gtgcagtgc atacctaaac agcacaatgc accctgggac ccggaagaga
720
gccaatgagg aacactggcc aaagggtgat attcatgagg atttttgag cgtttgaga
780
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840
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900
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960
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1020
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1080
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1140
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1200
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1260
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1320
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1380
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1440
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1500
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1560
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1620
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1680
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1800

tctaaacttt cgctactata aaacaaaaa aaggaattga gatttcacca accccagtgc
 1860
 ccagaagagg gaaggggagtg ggctggaggg agcagggggg tggacagtgt atcaataaag
 1920
 cagtatttaa tcacctctgg cgggggcctc gtgcaagggg agactgacac caagaacagc
 1980
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 2040
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 tctcctctcc aagaacaagc agagccgggc cactagcttg cccaaggcag ggaagaagga
 2160
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 2220
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 2280
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 2340
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 2400
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 2460
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 2580
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 2760
 aaaaaaaaaa aaaaaaa
 2777

<210> 4752

<211> 335

<212> PRT

<213> Homo sapiens

<400> 4752

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 1 5 10 15
 Phe Arg Gln His Leu Leu Ser Pro Ser Lys Tyr His Ser Leu Ser Pro
 20 25 30
 Leu Leu Asp Ser Leu His Val Gln Thr Phe Phe His Arg Phe Asp Pro
 35 40 45
 Ser Leu Trp Pro Arg Ile Thr Phe Leu Leu Pro Pro Ala Pro Pro Pro
 50 55 60
 Met Leu Ala Ala Pro Gln Leu Ile Gln Arg Pro Val Met Leu Thr Lys
 65 70 75 80
 Phe Thr Pro Thr Thr Leu Pro Thr Ser Gln Asn Ser Ile His Pro Val
 85 90 95
 Arg Val Val Asn Gly Gln Thr Ala Thr Ile Ala Lys Thr Phe Pro Met

100 105 110
 Ala Gln Leu Thr Ser Ile Val Ile Ala Thr Pro Gly Thr Arg Leu Ala
 115 120 125
 Gly Pro Gln Thr Val Gln Leu Ser Lys Pro Ser Leu Glu Lys Gln Thr
 130 135 140
 Val Lys Ser His Thr Glu Thr Asp Glu Lys Gln Thr Glu Ser Arg Thr
 145 150 155 160
 Ile Thr Pro Pro Ala Ala Pro Lys Pro Lys Arg Glu Glu Asn Pro Gln
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<212> DNA

<213> Homo sapiens

<400> 4753

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<213> Homo sapiens

<400> 4755

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<211> 78

<212> PRT

<213> Homo sapiens

<400> 4760

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| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Thr | Thr | Ala | Ala | Thr | Val | Ser | Val | Pro | Gln | Asp | Gly | Cys | Arg | Leu | Arg |
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| Phe | Leu | Pro | Leu | Trp | Asp | Val | Ala | Ala | Thr | Asp | Phe | Gly | Gln | Thr | Asn |
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<210> 4761

<211> 3973

<212> DNA

<213> Homo sapiens

<400> 4761

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<210> 4762

<211> 251

<212> PRT

<213> Homo sapiens

<400> 4762

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Lys | Lys | Arg | Val | Arg | Lys | Gly | Lys | Val | Glu | Tyr | Leu | Val | Lys | Trp |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Lys | Gly | Trp | Pro | Pro | Lys | Tyr | Ser | Thr | Trp | Glu | Pro | Glu | Glu | His | Ile |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Asp | Pro | Arg | Leu | Val | Met | Ala | Tyr | Glu | Glu | Lys | Glu | Glu | Arg | Asp |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Ala | Ser | Gly | Tyr | Arg | Lys | Arg | Gly | Pro | Lys | Pro | Lys | Arg | Leu | Leu |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Leu | Gln | Arg | Leu | Tyr | Ser | Met | Asp | Leu | Arg | Ser | Ser | His | Lys | Ala | Lys |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Gly | Lys | Glu | Lys | Leu | Cys | Phe | Ser | Leu | Thr | Cys | Pro | Leu | Gly | Ser | Gly |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ser | Pro | Glu | Gly | Val | Val | Lys | Ala | Gly | Ala | Pro | Glu | Leu | Val | Asp | Lys |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Gly | Pro | Leu | Val | Pro | Thr | Leu | Pro | Phe | Pro | Leu | Arg | Lys | Pro | Arg | Lys |
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| Ala | His | Lys | Tyr | Leu | Arg | Leu | Ser | Arg | Lys | Lys | Phe | Pro | Pro | Arg | Gly |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Pro | Asn | Leu | Glu | Ser | His | Ser | His | Arg | Arg | Glu | Leu | Phe | Leu | Gln | Glu |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Pro | Pro | Ala | Pro | Asp | Val | Leu | Gln | Ala | Ala | Gly | Glu | Trp | Glu | Pro | Ala |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Ala | Gln | Pro | Pro | Glu | Glu | Glu | Ala | Asp | Ala | Asp | Leu | Ala | Glu | Gly | Pro |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Pro | Pro | Trp | Thr | Pro | Ala | Leu | Pro | Ser | Ser | Glu | Val | Thr | Val | Thr | Asp |
| 210 | | | | | 215 | | | | | | 220 | | | | |
| Ile | Thr | Ala | Asn | Ser | Ile | Thr | Val | Thr | Phe | Arg | Glu | Ala | Gln | Ala | Ala |
| 225 | | | | 230 | | | | | 235 | | | | | 240 | |
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<211> 2158

<212> DNA

<213> Homo sapiens

<400> 4763

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<212> PRT

<213> Homo sapiens

<400> 4764

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 35 40 45
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 Asp Glu Ile Lys Gln Glu Glu Thr Cys Lys Arg Ile Ser Thr Ile
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 Asp Glu Arg Val Ala Pro Asn Phe Lys Thr Glu Pro Ile Glu Thr Lys
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 Phe Tyr Glu Thr Lys Glu Glu Ser Tyr Ser Pro Ser Lys Asp Arg Asn
 115 120 125
 Ile Ile Thr Glu Gly Asn Gly Thr Glu Ser Leu Asn Ser Val Ile Thr
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 Ser Met Lys Thr Gly Glu Leu Glu Lys Glu Thr Ala Pro Leu Arg Lys
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 Asp Ala Asp Ser Ser Ile Ser Val Leu Glu Ile His Ser Gln Lys Ala
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 Gln Ile Glu Glu Pro Asp Pro Pro Glu Met Glu Thr Ser Leu Asp Ser

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|
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| Ser | Glu | Met | Ala | Lys | Asp | Leu | Ser | Ser | Lys | Thr | Ala | Leu | Ser | Ser | Thr | | | | | | |
| | | 195 | | | | | | | 200 | | | | | 205 | | | | | | | |
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| Asp | Lys | Arg | Pro | Pro | Ile | Leu | Glu | Cys | Leu | Glu | Lys | Leu | Glu | Lys | Ser | | | | | | |
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| Lys | Lys | Thr | Phe | Leu | Asp | Lys | Asp | Ala | Gln | Arg | Leu | Ser | Pro | Ile | Pro | | | | | | |
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| Glu | Glu | Val | Pro | Lys | Ser | Thr | Leu | Glu | Ser | Glu | Lys | Pro | Gly | Ser | Pro | | | | | | |
| | | | 260 | | | | | 265 | | | | | 270 | | | | | | | | |
| Glu | Ala | Ala | Glu | Thr | Ser | Pro | Pro | Ser | Asn | Ile | Ile | Asp | His | Cys | Glu | | | | | | |
| | | 275 | | | | | 280 | | | | | 285 | | | | | | | | | |
| Lys | Leu | Ala | Ser | Glu | Lys | Glu | Val | Val | Glu | Cys | Gln | Ser | Thr | Ser | Thr | | | | | | |
| | | 290 | | | | 295 | | | | | 300 | | | | | | | | | | |
| Val | Gly | Gly | Gln | Ser | Val | Lys | Lys | Val | Asp | Leu | Glu | Thr | Leu | Lys | Glu | | | | | | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | | | | | | |
| Asp | Ser | Glu | Phe | Thr | Lys | Val | Glu | Met | Asp | Asn | Leu | Asp | Asn | Ala | Gln | | | | | | |
| | | | 325 | | | | | 330 | | | | | 335 | | | | | | | | |
| Thr | Ser | Gly | Ile | Glu | Glu | Pro | Ser | Glu | Thr | Lys | Gly | Ser | Met | Gln | Lys | | | | | | |
| | | 340 | | | | | | 345 | | | | | 350 | | | | | | | | |
| Ser | Lys | Phe | Lys | Tyr | Lys | Leu | Val | Pro | Glu | Glu | Glu | Thr | Thr | Ala | Ser | | | | | | |
| | | 355 | | | | 360 | | | | | | 365 | | | | | | | | | |
| Glu | Asn | Thr | Glu | Ile | Thr | Ser | Glu | Arg | Gln | Lys | Glu | Gly | Ile | Lys | Leu | | | | | | |
| | | 370 | | | | 375 | | | | | 380 | | | | | | | | | | |
| Thr | Ile | Arg | Ile | Ser | Ser | Arg | Lys | Lys | Lys | Pro | Asp | Ser | Pro | Pro | Lys | | | | | | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | | | | | | |
| Val | Leu | Glu | Pro | Glu | Asn | Lys | Gln | Glu | Lys | Thr | Glu | Lys | Glu | Glu | Glu | | | | | | |
| | | | 405 | | | | | 410 | | | | | 415 | | | | | | | | |
| Lys | Thr | Asn | Val | Gly | Arg | Thr | Leu | Arg | Arg | Ser | Pro | Arg | Ile | Ser | Arg | | | | | | |
| | | 420 | | | | | 425 | | | | | 430 | | | | | | | | | |
| Pro | Thr | Ala | Lys | Val | Ala | Glu | Ile | Arg | Asp | Gln | Lys | Ala | Asp | Lys | Lys | | | | | | |
| | | 435 | | | | 440 | | | | | | 445 | | | | | | | | | |
| Arg | Gly | Glu | Gly | Glu | Asp | Glu | Val | Glu | Glu | Glu | Ser | Thr | Ala | Leu | Gln | | | | | | |
| | | 450 | | | | 455 | | | | | 460 | | | | | | | | | | |
| Lys | Thr | Asp | Lys | Lys | Glu | Ile | Leu | Lys | Lys | Ser | Glu | Lys | Asp | Thr | Asn | | | | | | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | | | | | | |
| Ser | Lys | Val | Ser | Lys | Val | Lys | Pro | Xaa | Lys | Ala | Lys | Phe | Asp | Gly | Leu | | | | | | |
| | | | 485 | | | | | 490 | | | | | 495 | | | | | | | | |
| Val | Leu | Gly | His | Val | Ala | Asp | Gly | Asn | Ile | Pro | Ala | Met | Met | Lys | Val | | | | | | |
| | | 500 | | | | | 505 | | | | | 510 | | | | | | | | | |
| Lys | Gly | Leu | Ala | Val | Lys | Asn | His | Leu | Gln | Leu | Gln | Lys | Arg | Arg | Lys | | | | | | |
| | | 515 | | | | 520 | | | | | | 525 | | | | | | | | | |
| Lys | Arg | Lys | Val | Lys | Lys | Pro | Ser | Xaa | Ala | Asp | Asp | Asp | Glu | Pro | Cys | | | | | | |
| | | 530 | | | | 535 | | | | | 540 | | | | | | | | | | |
| Lys | Lys | Cys | Gly | Leu | Pro | Asn | His | Pro | Glu | Leu | Ile | Leu | Leu | Cys | Asp | | | | | | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | | | | | | |
| Ser | Cys | Asp | Ser | Gly | Tyr | His | Thr | Ala | Cys | Leu | Arg | Pro | Pro | Leu | Met | | | | | | |
| | | | 565 | | | | | 570 | | | | | 575 | | | | | | | | |
| Ile | Ile | Pro | Asp | Gly | Glu | Trp | Phe | Cys | Pro | Pro | Cys | Gln | His | Lys | Leu | | | | | | |
| | | | 580 | | | | 585 | | | | | | 590 | | | | | | | | |
| Leu | Cys | Glu | Lys | Leu | Glu | Glu | Gln | Leu | Gln | Asp | Leu | Asp | Val | Ala | Leu | | | | | | |
| | | 595 | | | | 600 | | | | | | 605 | | | | | | | | | |
| Lys | Lys | Lys | Glu | Arg | Ala | Glu | Arg | Arg | Lys | Glu | Arg | Leu | Val | Tyr | Val | | | | | | |

| | | | | |
|---|-----|-----|-----|-----|
| 610 | | 615 | | 620 |
| Gly Ile Ser Ile Glu Asn Ile Ile Pro Pro Gln Glu Pro Asp Phe Ser | | | | |
| 625 | | 630 | | 635 |
| Glu Asp Gln Glu Glu Lys Lys Lys Asp Ser Lys Lys Ser Lys Ala Asn | | | | |
| | 645 | | 650 | 655 |
| Leu Leu Glu Arg Arg Ser Thr Arg Thr Arg Lys Cys Ile Ser Tyr Arg | | | | |
| | 660 | | 665 | 670 |
| Phe Asp Glu Phe Asp Glu Ala Ile Asp Glu Ala Ile Glu Asp Asp Ile | | | | |
| | 675 | | 680 | 685 |
| Lys Glu Ala Asp Gly Gly Gly Val Gly Arg Gly Lys Asp Ile Ser Thr | | | | |
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<210> 4765

<211> 1707

<212> DNA

<213> Homo sapiens

<400> 4765

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<210> 4766

<211> 280

<212> PRT

<213> Homo sapiens

<400> 4766

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 Pro Val Ala Leu Thr Leu Leu Thr Leu Cys Leu Val Leu Leu Ile Gly
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 Thr Gly Gln Asp Thr Ile Ser Gln Met Glu Glu Arg Leu Gly Asn Thr
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 Ser Gln Glu Leu Gln Ser Leu Gln Val Gln Asn Ile Lys Leu Ala Gly
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 Cys Lys Tyr Phe Cys Leu Ser Glu Asn Ser Thr Met Leu Lys Ile Asn
 165 170 175
 Lys Gln Glu Asp Leu Glu Phe Ala Ala Ser Gln Ser Tyr Ser Glu Phe

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
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| Phe | Tyr | Ser | Tyr | Trp | Thr | Gly | Leu | Leu | Arg | Pro | Asp | Ser | Gly | Lys | Ala | | | | |
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| Trp | Leu | Trp | Met | Asp | Gly | Thr | Pro | Phe | Thr | Ser | Glu | Leu | Phe | His | Ile | | | | |
| 210 | | | 215 | | | | | 220 | | | | | | | | | | | |
| Ile | Ile | Asp | Val | Thr | Ser | Pro | Arg | Ser | Arg | Asp | Cys | Val | Ala | Ile | Leu | | | | |
| 225 | | | | | | 230 | | | | | 235 | | | | | | | | |
| Asn | Gly | Met | Ile | Phe | Ser | Lys | Asp | Cys | Lys | Glu | Leu | Lys | Arg | Cys | Val | | | | |
| 240 | | | | 245 | | | | | 250 | | | | | 255 | | | | | |
| Cys | Glu | Arg | Arg | Ala | Gly | Met | Val | Lys | Pro | Glu | Ser | Leu | His | Val | Pro | | | | |
| 260 | | | 265 | | | | | 270 | | | | | | | | | | | |
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<210> 4767
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<212> DNA
<213> Homo sapiens
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| 120 | gacgtgagcg | cctacagtgg | gctcggggag | gactctgcgg | gcagtgccct | ggaggaggac |
| 180 | gacgaagacg | acgaggggga | tggggagccc | ccctacgagc | ccgagtcggg | gtgctgggag |
| 240 | atccccgggg | tgctggagga | ggaggaccaca | gccccgagcc | ggaagatcca | tttcagcacg |
| 300 | gcgcccattc | aagtgtttac | cacttactcc | aacgaggatt | acgatcgctc | caacagggat |
| 360 | tggtgatccca | tggcagcctc | tgctgagtac | gagctggaga | agcgtgtgga | gaggttggag |
| 420 | ctgttccctg | tggagctgga | gaaggactcc | gagggcctgg | gcatacagcat | catcggcgatg |
| 480 | ggcgccgggg | gacagatggg | cctggagaag | ctgggtatct | tcgtcaagac | cgtagcggag |
| 540 | ggtggtgcgg | cccatacggga | tggcagggatc | caggtgaatg | atctctctgt | ggaggtggat |
| 600 | ggaaacaagtc | tggtggggagt | gacccagagc | ttcgcgcgct | ctgtgctccg | gaacaccaag |
| 660 | ggccgagtg | ggtttatgat | tggccgggag | cggccgggag | agcagagcga | agtggcccag |
| 720 | ctaattcagc | agactttgga | acaggagcga | tggcagcggg | agatgatgga | gcagagatac |
| 780 | gcccagtatg | gggaggatga | cgaggagacg | ggagagtatg | ccactgacga | ggatgaggag |
| 840 | ctgagcccca | cgttcccggg | tggtgagatg | gccatcgagg | tgtttgagct | agcgggagaac |
| 900 | gaggatgcac | tgtcccctgt | ggacatggag | cccggagaagc | tggtgcacaa | gttcaaggag |
| 960 | ctccagatca | agcatcgcggt | cactgaggca | gagatccagc | agctgaaaag | aaagctgcag |
| 1020 | | | | | | |

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<210> 4768

<211> 460

<212> PRT

<213> Homo sapiens

<400> 4768

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Ala | Pro | Glu | Val | Ala | Pro | Glu | Glu | Val | Asp | Glu | Ser | Lys | Lys | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Phe | Ser | Glu | Ala | Asp | Leu | Val | Asp | Val | Ser | Ala | Tyr | Ser | Gly | Leu |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Gly | Glu | Asp | Ser | Ala | Gly | Ser | Ala | Leu | Glu | Glu | Asp | Asp | Glu | Asp | Asp |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Glu | Gly | Asp | Gly | Glu | Pro | Pro | Tyr | Glu | Pro | Glu | Ser | Gly | Cys | Val | Glu |
| | 65 | | | 70 | | | | 75 | | | | | 80 | | |
| Ile | Pro | Gly | Leu | Ser | Glu | Glu | Glu | Asp | Pro | Ala | Pro | Ser | Arg | Lys | Ile |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| His | Phe | Ser | Thr | Ala | Pro | Ile | Gln | Val | Phe | Ser | Thr | Tyr | Ser | Asn | Glu |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asp | Tyr | Asp | Arg | Arg | Asn | Glu | Asp | Val | Asp | Pro | Met | Ala | Ala | Ser | Ala |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Glu | Tyr | Glu | Leu | Glu | Lys | Arg | Val | Glu | Arg | Leu | Glu | Leu | Phe | Pro | Val |
| | | 130 | | | | 135 | | | | 140 | | | | | |
| Glu | Leu | Glu | Lys | Asp | Ser | Glu | Gly | Leu | Gly | Ile | Ser | Ile | Ile | Gly | Met |
| | 145 | | | 150 | | | | | 155 | | | | | 160 | |
| Gly | Ala | Gly | Ala | Asp | Met | Gly | Leu | Glu | Lys | Leu | Gly | Ile | Phe | Val | Lys |
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| Thr | Val | Thr | Glu | Gly | Gly | Ala | Ala | His | Arg | Asp | Gly | Arg | Ile | Gln | Val |
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| Asn | Asp | Leu | Leu | Val | Glu | Val | Asp | Gly | Thr | Ser | Leu | Val | Gly | Val | Thr |
| | | 195 | | | | 200 | | | | | 205 | | | | |
| Gln | Ser | Phe | Ala | Ala | Ser | Val | Leu | Arg | Asn | Thr | Lys | Gly | Arg | Val | Arg |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Phe | Met | Ile | Gly | Arg | Glu | Arg | Pro | Gly | Glu | Gln | Ser | Glu | Val | Ala | Gln |
| | 225 | | | | 230 | | | | 235 | | | | | 240 | |
| Leu | Ile | Gln | Gln | Thr | Leu | Glu | Gln | Glu | Arg | Trp | Gln | Arg | Glu | Met | Met |
| | | | 245 | | | | | 250 | | | | | | 255 | |
| Glu | Gln | Arg | Tyr | Ala | Gln | Tyr | Gly | Glu | Asp | Asp | Glu | Glu | Thr | Gly | Glu |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Tyr | Ala | Thr | Asp | Glu | Asp | Glu | Glu | Leu | Ser | Pro | Thr | Phe | Pro | Gly | Gly |

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      275              280              285
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Ser Pro Val Asp Met Glu Pro Glu Lys Leu Val His Lys Phe Lys Glu
  305              310              315              320
Leu Gln Ile Lys His Ala Val Thr Glu Ala Glu Ile Gln Gln Leu Lys
      325              330              335
Arg Lys Leu Gln Ser Leu Glu Gln Glu Lys Gly Arg Trp Arg Val Glu
      340              345              350
Lys Ala Gln Leu Glu Gln Ser Val Glu Glu Asn Lys Glu Arg Met Glu
      355              360              365
Lys Leu Glu Gly Tyr Trp Gly Glu Ala Gln Ser Leu Cys Gln Ala Val
      370              375              380
Asp Glu His Leu Arg Glu Thr Gln Ala Gln Tyr Gln Ala Leu Glu Arg
  385              390              395              400
Lys Tyr Ser Lys Ala Lys Arg Leu Ile Lys Asp Tyr Gln Gln Lys Glu
      405              410              415
Ile Glu Phe Leu Lys Lys Glu Thr Ala Gln Arg Arg Val Leu Glu Glu
      420              425              430
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<210> 4769

<211> 1533

<212> DNA

<213> Homo sapiens

<400> 4769

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<210> 4770

<211> 237

<212> PRT

<213> Homo sapiens

<400> 4770

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Arg | Leu | His | Gln | Thr | His | Arg | Leu | Lys | Glu | Cys | Val | Ala | Pro | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Ser | Val | Leu | Thr | Glu | Cys | Ala | Arg | Met | His | Arg | Pro | Ala | Arg | Lys |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Phe | Leu | Lys | Ala | Gln | Val | Leu | Pro | Pro | Leu | Arg | Asp | Val | Arg | Thr | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Pro | Glu | Val | Gly | Asp | Leu | Leu | Arg | Asn | Lys | Leu | Val | Arg | Leu | Met | Thr |
| | 65 | | | | 70 | | | | 75 | | | | | 80 | |
| His | Leu | Asp | Thr | Asp | Val | Lys | Arg | Val | Ala | Ala | Glu | Phe | Leu | Phe | Val |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Leu | Cys | Ser | Glu | Ser | Val | Pro | Arg | Phe | Ile | Lys | Tyr | Thr | Gly | Tyr | Gly |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asn | Ala | Ala | Gly | Leu | Leu | Ala | Ala | Arg | Gly | Leu | Met | Ala | Gly | Gly | Arg |
| | | | 115 | | | | 120 | | | | | | 125 | | |
| Pro | Glu | Gly | Gln | Tyr | Ser | Glu | Asp | Glu | Asp | Thr | Asp | Thr | Asp | Glu | Tyr |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Lys | Glu | Ala | Lys | Ala | Ser | Ile | Asn | Pro | Val | Thr | Gly | Arg | Val | Glu | Glu |

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 | | | | 150 | | | | | 155 | | | | 160 |
| Lys | Pro | Pro | Asn | Pro | Met | Glu | Gly | Met | Thr | Glu | Glu | Gln | Lys |
| | | | | 165 | | | | | 170 | | | | 175 |
| Glu | Ala | Met | Lys | Leu | Val | Thr | Met | Phe | Asp | Lys | Leu | Ser | Pro |
| | | | 180 | | | | | 185 | | | | 190 | |
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| | | 195 | | | | | | 200 | | | | 205 | |
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| | 210 | | | | | 215 | | | | | 220 | | Thr |
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<210> 4771

<211> 2653

<212> DNA

<213> Homo sapiens

<400> 4771

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 Ile Ala Thr Arg Gly Val Val Gln Leu Phe Asn Ala Val Gln Lys His
 65 70 75 80
 Gln Lys Asn Val Asp Glu Lys Val Lys Glu Ala Gly Ser Ser Met Arg
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 Lys Arg Ala Lys Leu Ile Ser Thr Val Ser Lys Lys Asp Phe Ile Ser
 100 105 110
 Val Leu Arg Gly Met Asp Gly Ser Thr Asn Glu Thr Ala Ser Ser Arg
 115 120 125
 Lys Lys Pro Lys Ala Lys Gln Thr Glu Val Lys Ser Glu Glu Gly Pro
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 Ala Ser Asp Ser Asp Thr
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<210> 4773
 <211> 319
 <212> DNA
 <213> Homo sapiens

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 319

<210> 4774
 <211> 91
 <212> PRT

<213> Homo sapiens

<400> 4774

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Ala Thr Glu Gly Asp Lys Ile Pro Lys Cys Cys Arg Pro Gln Pro Arg
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Pro Asn Pro Ser Ser Leu Phe Pro Pro Ser Pro Gln Ala Arg Ala Ala
 35              40              45
Met Gly Trp Arg Val Leu Ala Trp Thr Gln His Pro Ile Ser Ser Ala
 50              55              60
Leu Ser Leu Asp Pro Ala Ser His Leu Leu Ser Ser Gln Gly Gly Gly
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Ser Trp Glu Pro His Pro Gln Pro Leu His Ala
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<210> 4775

<211> 433

<212> DNA

<213> Homo sapiens

<400> 4775

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tgggccttaaa catgaaccaa catggcggat gcttcaagca agtgggggtg ctgggacctt
180
aagggtggaga ggggtgaaat gaaaagactc gcctctctct cccccactaa ctccctcctc
240
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300
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433

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<210> 4776

<211> 97

<212> PRT

<213> Homo sapiens

<400> 4776

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Arg Gly Glu Met Lys Arg Leu Ala Ser Ser Ser Pro Thr Asn Ser Leu
      20              25              30
Leu Trp Leu His Cys Pro Pro Cys Tyr Phe Phe Glu Arg Ala Asn His
 35              40              45
Thr Ala Thr Ser Leu Pro Leu His Leu Leu Ser Leu Leu Leu Thr
 50              55              60
Ile His Ala Ala His Pro Val Thr Ser Phe Gln Phe Leu Leu Thr Phe

```

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| 65 | | 70 | | 75 | | 80 |
| Leu | Lys | Arg | Pro | Ser | Leu | Thr |
| | | | | Ile | Leu | Phe |
| | | | | Asn | Ile | Pro |
| | | | | Pro | Pro | Arg |
| | | | | | | Leu |
| | | 85 | | 90 | | 95 |

Asn

<210> 4777

<211> 2200

<212> DNA

<213> Homo sapiens

<400> 4777

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<210> 4778

<211> 144

<212> PRT

<213> Homo sapiens

<400> 4778

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 35 40 45
 Glu Ser Arg Tyr Leu Arg Ala Val Leu Ala Asn Glu Thr Gly Leu Ala
 50 55 60
 Arg Leu Leu Ser Arg Leu Ser Gly Val Gly Leu Arg Leu Thr Thr Ser
 65 70 75 80
 Leu Phe Arg Asp Ser Pro Ala Gly Asp His Asp Tyr Ala Leu Pro Val
 85 90 95
 Gly Lys Gln Lys Gln Asp Leu Leu Glu Glu Asp Asp Ser Ala Gly Gly
 100 105 110
 Val Cys Leu His Val Asp Lys Asp Lys Val Ser Val Glu Phe Cys Ser

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 115 | | | | | 120 | | | | 125 | | | |
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<210> 4779
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 <212> DNA
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 <212> PRT
 <213> Homo sapiens

<400> 4780

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Ser Asp Pro Ser Asp Gly Gln Arg Arg Gln Gln Gln Gln Gln Gln
 35           40           45
Gln Gln Gln Gln Gln Gln Gln Gln Pro Gln Gln Pro Gln Val Leu
 50           55           60
Ser Ser Glu Gly Gly Gln Leu Arg His Asn Pro Leu Asp Ile Gln Met
 65           70           75           80
Leu Ser Arg Gly Leu His Glu Gln Ile Phe Gly Gln Gly Gly Glu Met
 85           90           95
Pro Gly Glu Ala Ala Val Arg Arg Ser Val Glu His Leu Gln Lys His
 100          105          110
Gly Leu Trp Gly Gln Pro Ala Val Pro Leu Pro Asp Val Glu Leu Arg
 115          120          125
Leu Pro Pro Leu Tyr Gly Asp Asn Leu Asp Gln His Phe Arg Leu Leu
 130          135          140
Ala Gln Lys Gln Ser Leu Pro Tyr Leu Glu Ala Ala Asn Leu Leu Leu
 145          150          155          160
Gln Ala Gln Leu Pro Pro Lys Pro Pro Ala Trp Ala Trp Ala Glu Gly
 165          170          175
Trp Thr Arg Tyr Gly Pro Glu Gly Glu Ala Val Pro Val Ala Ile Pro
 180          185          190
Glu Glu Arg Ala Leu Val Phe Asp Val Glu Val Cys Leu Ala Glu Gly
 195          200          205
Thr Cys Pro Thr Leu Ala Val Ala Ile Ser Pro Ser Ala Trp Tyr Ser
 210          215          220
Trp Cys Ser Gln Arg Leu Val Glu Glu Arg Tyr Ser Trp Thr Ser Gln
 225          230          235          240
Leu Ser Pro Ala Asp Leu Ile Pro Leu Glu Val Pro Thr Gly Ala Ser
 245          250          255
Ser Pro Thr Gln Arg Asp Trp Gln Glu Leu Val Val Gly His Asn
 260          265          270
Val Ser Phe Asp Arg Ala His Ile Arg Glu Gln Tyr Leu Ile Gln Gly
 275          280          285
Ser Arg Met Arg Phe Leu Asp Thr Met Ser Met His Met Ala Ile Ser
 290          295          300
Gly Leu Ser Ser Phe Gln Arg Ser Leu Trp Ile Ala Ala Lys Gln Gly
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Lys His Lys Val Gln Pro Pro Thr Lys Gln Gly Gln Lys Ser Gln Arg
 325          330          335
Lys Ala Arg Arg Gly Pro Ala Ile Ser Ser Trp Asp Trp Leu Asp Ile
 340          345          350
Ser Ser Val Asn Ser Leu Ala Glu Val His Arg Leu Tyr Val Gly Gly
 355          360          365
Pro Pro Leu Glu Lys Glu Pro Arg Glu Leu Phe Val Lys Gly Thr Met
 370          375          380
Lys Asp Ile Arg Glu Asn Phe Gln Asp Leu Met Gln Tyr Cys Ala Gln

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385 390 395 400
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 450 455 460
 Leu Met Asp Leu Ala Asn Asp Ala Cys Gln Leu Leu Ser Gly Glu Arg
 465 470 475 480
 Tyr Lys Glu Asp Pro Trp Leu Trp Asp Leu Trp Asp Leu Gln Glu
 485 490 495
 Phe Lys Gln Lys Lys Ala Lys Lys Val Lys Lys Glu Pro Ala Thr Ala
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 Ser Lys Leu Pro Ile Glu Gly Ala Gly Ala Pro Gly Asp Pro Met Asp
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 530 535 540
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 565 570 575
 Lys Leu Cys Pro Arg Leu Asp Asp Pro Ala Trp Thr Pro Gly Pro Ser
 580 585 590
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 610 615 620
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 625 630 635 640
 Thr Leu Glu Ser Ala Gly Val Val Cys Pro Tyr Arg Ala Ile Glu Ser
 645 650 655
 Leu Tyr Arg Lys His Cys Leu Glu Gln Gly Lys Gln Gln Leu Met Pro
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 Gln Glu Ala Gly Leu Ala Glu Glu Phe Leu Leu Thr Asp Asn Ser Ala
 675 680 685
 Ile Trp Gln Thr Val Glu Glu Leu Asp Tyr Leu Glu Val Glu Ala Glu
 690 695 700
 Ala Lys Met Glu Asn Leu Arg Ala Ala Val Pro Gly Gln Pro Leu Ala
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 Pro Gly Gly Ala Ser Gly Pro Arg Ala Leu Glu Ile Asn Lys Met Ile
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 850 855 860
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 Gln Ala Pro Pro Gly Tyr Thr Leu Val Gly Ala Asp Val Asp Ser Gln
 885 890 895
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 945 950 955 960
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 <212> PRT
 <213> Homo sapiens

<400> 4782
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<210> 4784

<211> 212

<212> PRT

<213> Homo sapiens

<400> 4784

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 35 40 45
 Arg Ile Ala Gln Tyr Leu Lys Gly Leu Glu Val Leu Glu Leu Gly Gly
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 Cys Ser Asn Ile Thr Asn Thr Gly Leu Leu Leu Ile Ala Trp Gly Leu
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 Gln Arg Leu Lys Ser Leu Asn Leu Arg Ser Cys Arg His Leu Ser Asp
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 Val Gly Ile Gly His Leu Ala Gly Met Thr Arg Ser Ala Ala Glu Gly
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| | | |
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| Leu Asn Leu Ser Phe Cys Gly Gly Ile Ser Asp Ala Gly Leu Leu His | | |
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| Asn Ile Ser Asp Thr Gly Ile Met His Leu Ala Met Gly Ser Leu Arg | | |
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<212> DNA

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<210> 4786

<211> 322

<212> PRT

<213> Homo sapiens

<400> 4786

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 Arg Lys Ala Ile Arg Gly His Leu Glu Asn Asn Pro Ala Leu Glu Lys
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3967

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<210> 4788

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<212> PRT

<213> Homo sapiens

<400> 4788

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| Val | Glu | Thr | Met | Glu | Gly | Pro | Pro | Arg | Arg | Thr | Cys | Arg | Ser | Pro | Glu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Gly | Pro | Ser | Ser | Ser | Ile | Gly | Ser | Pro | Gln | Ala | Ser | Ser | Pro | Pro |
| | | | 35 | | | 40 | | | | | | 45 | | | |
| Arg | Pro | Asn | His | Tyr | Leu | Leu | Ile | Asp | Thr | Gln | Gly | Val | Pro | Tyr | Thr |
| | | 50 | | | 55 | | | | | 60 | | | | | |
| Val | Leu | Val | Asp | Glu | Glu | Ser | Gln | Arg | Glu | Pro | Gly | Ala | Ser | Gly | Ala |
| | | | 65 | | 70 | | | | 75 | | | | | 80 | |
| Pro | Gly | Gln | Lys | Lys | Cys | Tyr | Ser | Cys | Pro | Val | Cys | Ser | Arg | Val | Phe |
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| Glu | Tyr | Met | Ser | Tyr | Leu | Gln | Arg | His | Ser | Ile | Thr | His | Ser | Glu | Val |
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<211> 1515

<212> DNA

<213> Homo sapiens

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<211> 241

<212> PRT

<213> Homo sapiens

<400> 4790

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Thr Phe Glu Leu Phe Leu Thr Ile Ile Asp Gly Pro Ala Asn Tyr Asn
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Val Asp Leu Pro Phe Met Tyr Ser Ile Thr Tyr Ala Ala Phe Ala Ile
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Gln Arg Tyr Ala Gln Ala Phe His Thr Arg Gly Ser Glu Asp Leu Asp
165           170           175
Lys Asp Ser Val Glu Lys Leu Glu Leu Gly Cys Pro Phe Ser Pro His
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<210> 4791

<211> 4481

<212> DNA

<213> Homo sapiens

<400> 4791

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| Met | Gly | Leu | Ile | Thr | His | Thr | Asp | Ser | Pro | Tyr | Ile | Arg | Ala | Leu | Gly |
| 1 | | | 5 | | | | | | 10 | | | | | 15 | |
| Phe | Met | Tyr | Ile | Arg | Tyr | Thr | Gln | Pro | Thr | Asp | Leu | Trp | Asp | Trp | |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Phe | Glu | Ser | Phe | Leu | Asp | Asp | Glu | Glu | Asp | Leu | Asp | Val | Lys | Ala | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Gly | Cys | Val | Met | Thr | Ile | Gly | Glu | Met | Leu | Arg | Ser | Phe | Leu | Thr |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Lys | Leu | Glu | Trp | Phe | Ser | Thr | Leu | Phe | Pro | Arg | Ile | Pro | Val | Pro | Val |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Gln | Lys | Asn | Ile | Asp | Gln | Gln | Ile | Lys | Thr | Arg | Pro | Arg | Lys | Ile | Lys |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Lys | Asp | Gly | Lys | Glu | Gly | Ala | Glu | Glu | Ile | Asp | Arg | His | Val | Glu | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Arg | Arg | Ser | Arg | Ser | Pro | Arg | Arg | Ser | Leu | Ser | Pro | Arg | Arg | Ser | Pro |
| | | | 115 | | | | | 120 | | | | | 125 | | |
| Arg | Arg | Ser | Arg | Ser | Arg | Ser | His | His | Arg | Glu | Gly | His | Gly | Ser | Ser |
| | | | 130 | | | | 135 | | | | 140 | | | | |
| Ser | Phe | Asp | Arg | Glu | Leu | Glu | Arg | Glu | Lys | Glu | Arg | Gln | Arg | Leu | Glu |
| 145 | | | | | 150 | | | | 155 | | | | | 160 | |
| Arg | Glu | Ala | Lys | Glu | Arg | Glu | Lys | Glu | Arg | Arg | Ser | Arg | Ser | Ile | |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Asp | Arg | Gly | Leu | Glu | Arg | Arg | Arg | Ser | Arg | Ser | Arg | Glu | Arg | His | Arg |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Ser | Arg | Ser | Arg | Ser | Arg | Asp | Arg | Lys | Gly | Asp | Arg | Arg | Asp | Arg | Asp |
| | | | 195 | | | | 200 | | | | 205 | | | | |
| Arg | Glu | Arg | Glu | Lys | Glu | Asn | Glu | Arg | Gly | Arg | Arg | Arg | Asp | Arg | Asp |
| | | | 210 | | | 215 | | | | | 220 | | | | |
| Tyr | Asp | Lys | Glu | Arg | Gly | Asn | Glu | Arg | Glu | Lys | Glu | Arg | Glu | Arg | Ser |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Arg | Glu | Arg | Ser | Lys | Glu | Gln | Arg | Ser | Arg | Gly | Glu | Val | Glu | Glu | Lys |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Lys | His | Lys | Glu | Asp | Lys | Asp | Asp | Arg | Arg | His | Arg | Asp | Asp | Lys | Arg |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asp | Ser | Lys | Lys | Glu | Lys | Lys | His | Ser | Arg | Ser | Arg | Ser | Arg | Glu | Arg |

```

      275              280              285
Lys His Arg Ser Arg Ser Arg Ser Arg Asn Ala Gly Lys Arg Ser Arg
  290              295              300
Ser Arg Ser Lys Glu Lys Ser Ser Lys His Lys Asn Glu Ser Lys Glu
  305              310              315              320
Lys Ser Asn Lys Arg Ser Arg Ser Gly Ser Gln Gly Arg Thr Asp Ser
      325              330              335
Val Glu Lys Ser Lys Lys Arg Glu His Ser Pro Ser Lys Glu Lys Ser
      340              345              350
Arg Lys Arg Ser Arg Ser Lys Glu Arg Ser His Lys Arg Asp His Ser
      355              360              365
Asp Ser Lys Asp Gln Ser Asp Lys His Asp Arg Arg Arg Ser Gln Ser
      370              375              380
Ile Glu Gln Glu Ser Gln Glu Lys Gln His Lys Asn Lys Asp Glu Thr
  385              390              395              400
Val

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<210> 4799

<211> 358

<212> DNA

<213> Homo sapiens

<400> 4799

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  120
ctggatcagc ctcacaccg agtggctcaa cctcatcttc aagtgtgag acagagaagc
  180
cctccggcat cctgggtcccc acccccagg gcccgtgagtc atgtgtttct ttttgagac
  240
aggccctttt ggtgggtcca tgagtctggt tactacagcc aggctccagc ccagggtcac
  300
cagttccctt cttctgtga gactgggtcca ggcagccctt ctggacactg catgatca
  358

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<210> 4800

<211> 119

<212> PRT

<213> Homo sapiens

<400> 4800

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Ala Ser Leu Ala Gly Glu Arg Val Ala Leu Asp His Leu Ser Gly Arg
  1           5           10           15
Ser Gln Asp Pro Leu Ser Val Leu Leu Pro Arg Gly Leu Leu Arg Leu
      20           25           30
Pro Pro Cys Gly His Arg Gly Ala Leu Asp Gln Pro His His Arg Val
      35           40           45
Ala Gln Pro His Leu Gln Val Val Arg Gln Arg Ser Pro Pro Ala Ser
      50           55           60
Trp Ser Pro Pro Pro Arg Ala Leu Ser His Val Phe Leu Phe Gly Asp
      65           70           75           80
Arg Pro Phe Trp Trp Val His Glu Ser Gly Tyr Ser Gln Ala Pro

```


| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 85 | | 90 | | 95 | | | | | | | | | | |
| Ala | Gln | Val | His | Gln | Phe | Pro | Ser | Ser | Cys | Glu | Thr | Gly | Pro | Gly | Ser |
| | 100 | | | | | | | 105 | | | | | 110 | | |
| Pro | Ser | Gly | His | Cys | Met | Ile | | | | | | | | | |
| | 115 | | | | | | | | | | | | | | |

<210> 4801

<211> 1447

<212> DNA

<213> Homo sapiens

<400> 4801

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120
atagccgagg cgctacagaa ccagctagcc tggctggaga acgtgtggct ctggatcacc
180
ttttctggcg atcccaagat cctctttctg ttctacttcc ccggggccta ctacgcctcc
240
cgccgtgtgg gcctcgcggt gctctggatc agcctcatca ccgagtggct caacctcatc
300
ttcaagtggg ttctttttgg agacaggccc ttttggtagg tccatgagtc tggttactac
360
agccaggctc cagccagggt tcaccagttc cctcttctt gtgagactgg tccaggcagc
420
ccttctggac actgcctgat cacaggagca gccctctggc ccataatgac agcctgtctt
480
tcgcagggtg cactcggggc ccgcagccgc tgggtaaggg tgatgcctag cctggtttat
540
tgcaccttcc ttttggcggt tggcttgtcg cgaatcttca tcttagcaca tttccctcac
600
cagggtctgg ctggcctaata aactggcgct gtcctgggct ggctgatgac tnncccgag
660
tgccctatga gcgggagcgt aagcttctat gggttgactg cactggccct catgctaggc
720
accagctcca tctattggac cctctttaca ctgggctggt atctttcttg gtccatcagc
780
ctagccttca agtggtgtga gcggcctgag tggatacacg tggatagccg gccctttggc
840
tccctgagcc gtgactcagg ggctgcctg ggctgggga ttgacctgca ctctccctgc
900
tatgccagg tgcgtcgggc acagctggga aatggccaga agatagcctg ccttgtgtg
960
gccatggggc tgctggggcc cctggactgg ctggggccacc cccctcagat cagcctcttc
1020
tacattttca atttccctaa gtacaccctc tggccatgac tagtcttgcc cctcgtgcc
1080
tgggcagtcg acatgttcag tgcccaggaa gcaccgcca tccactcttc ctgactcttc
1140
gtgtgcctcc ctttcccttc cctcccacaa agccaacact ctgtgaccac cacactccag
1200
gaggcagccc cctcccttc cagccctaa gtaggccctc cctccctaa atctgcttcc
1260

```

gcaccacctg gtcttagccc caaagatggg ccttctctct ccagataag ttggctctcc
 1320
 ctctgccttt cctctcaagc ccccaagag caaaggcaac agcaagacca gcgggttctt
 1380
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 1440
 aaaaaaa
 1447

<210> 4802
 <211> 377
 <212> PRT
 <213> Homo sapiens

<400> 4802
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 20 25 30
 Ser Thr Leu Gly Ala Gly Ile Val Ile Ala Glu Ala Leu Gln Asn Gln
 35 40 45
 Leu Ala Trp Leu Glu Asn Val Trp Leu Trp Ile Thr Phe Leu Gly Asp
 50 55 60
 Pro Lys Ile Leu Phe Leu Phe Tyr Phe Pro Ala Ala Tyr Tyr Ala Ser
 65 70 75 80
 Arg Arg Val Gly Ile Ala Val Leu Trp Ile Ser Leu Ile Thr Glu Trp
 85 90 95
 Leu Asn Leu Ile Phe Lys Trp Phe Leu Phe Gly Asp Arg Pro Phe Trp
 100 105 110
 Trp Val His Glu Ser Gly Tyr Tyr Ser Gln Ala Pro Ala Gln Val His
 115 120 125
 Gln Phe Pro Ser Ser Cys Glu Thr Gly Pro Gly Ser Pro Ser Gly His
 130 135 140
 Cys Met Ile Thr Gly Ala Ala Leu Trp Pro Ile Met Thr Ala Leu Ser
 145 150 155 160
 Ser Gln Val Ala Thr Arg Ala Arg Ser Arg Trp Val Arg Val Met Pro
 165 170 175
 Ser Leu Ala Tyr Cys Thr Phe Leu Leu Ala Val Gly Leu Ser Arg Ile
 180 185 190
 Phe Ile Leu Ala His Phe Pro His Gln Val Leu Ala Gly Leu Ile Thr
 195 200 205
 Gly Ala Val Leu Gly Trp Leu Met Thr Xaa Pro Glu Cys Leu Trp Ser
 210 215 220
 Gly Ser Xaa Ser Phe Tyr Gly Leu Thr Ala Leu Ala Leu Met Leu Gly
 225 230 235 240
 Thr Ser Leu Ile Tyr Trp Thr Leu Phe Thr Leu Gly Leu Asp Leu Ser
 245 250 255
 Trp Ser Ile Ser Leu Ala Phe Lys Trp Cys Glu Arg Pro Glu Trp Ile
 260 265 270
 His Val Asp Ser Arg Pro Phe Ala Ser Leu Ser Arg Asp Ser Gly Ala
 275 280 285
 Ala Leu Gly Leu Gly Ile Ala Leu His Ser Pro Cys Tyr Ala Gln Val
 290 295 300
 Arg Arg Ala Gln Leu Gly Asn Gly Gln Lys Ile Ala Cys Leu Val Leu

```

305          310          315          320
Ala Met Gly Leu Leu Gly Pro Leu Asp Trp Leu Gly His Pro Pro Gln
          325          330          335
Ile Ser Leu Phe Tyr Ile Phe Asn Phe Leu Lys Tyr Thr Leu Trp Pro
          340          345          350
Cys Leu Val Leu Ala Leu Val Pro Trp Ala Val His Met Phe Ser Ala
          355          360          365
Gln Glu Ala Pro Pro Ile His Ser Ser
          370          375

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<210> 4803

<211> 564

<212> DNA

<213> Homo sapiens

<400> 4803

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120
ccaaaacctg ctaatgcctg atttccatta cgtgctactc ctcaaaggc agcggtctct
180
gaatattaca gagatgggtg gctgttttgc tttctctttt gttgtagcat aaaactgttc
240
attttagctt agtgacattt gtcaagaata gcaacctttt tgcttccaag ggacttgaag
300
gaagttaaat ttatagcttt tcctctcttc ttattttgtg gaggtatttc ctgttcagta
360
gcaaatacgt tatagaatat attagcattg ttatatatta aactaatgac taatcatttc
420
agctttatcc atactgttgc attttatatt tcacagggag caatagaaaa agtgaagaa
480
agtgcacaaac tagttgcaac aagtaaaatc accctacaag acaaacagaa catggtgaag
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564

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<210> 4804

<211> 53

<212> PRT

<213> Homo sapiens

<400> 4804

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Met Thr Asn His Phe Ser Phe Ile His Thr Val Ala Phe Tyr Ile Ser
  1          5          10          15
Gln Gly Ala Ile Glu Lys Val Lys Glu Ser Asp Lys Leu Val Ala Thr
          20          25          30
Ser Lys Ile Thr Leu Gln Asp Lys Gln Asn Met Val Lys Arg Val Ser
          35          40          45
Ile Met Ser Tyr Ala
          50

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<210> 4805

<211> 1619

<212> DNA

<213> Homo sapiens

<400> 4805

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120
aaatccatgc agaaaaaact tcggagtaat tggaagattc agagcttaaa agatgaaatc
180
acatctgaga agttaaatgg agtaaaaactg tggattacag ctgggccaag ggaaaaattt
240
actgcagctg agtttgaaat cctgaagaaa tatcttgaca ctgggtggga tgtccttggtg
300
atgctagggg aaggtggaga atccagattt gacaccaata ttaacttttt actagaagaa
360
tatggaatca tgggtaataa tgatgctgtg gttagaaatg tatatcacia atatttccat
420
cctaagaag ctctagtttc cagtggagtc tgaacaggg aaattagccg agctgcagga
480
aaggctgtgc tggcgatcat tgatgaggaa agcagtggaa acaatgcccc ggctctcacc
540
tttgtgtatc cttttgtgtc cacattgagt gtcataaac cagcagtggc ggttctgtct
600
acagggttctg tctgcttccc acttaacaga cccatttttg ctttctatca ctcaaagaac
660
caagggtggga agctggcagt gcttggttca tgtcacatgt tcagtgtatc atatttggac
720
aaagaagaaa acagcaaaat catggatgtt gttgttttcc agtggtctac gacaggagac
780
atccacctaa accagattga tgctgaggac ccagagattt ctgactacat gatgctgccc
840
tacacagcca ccctatcaaa gcggaatcga gagtgtctcc aggagagtga tgagatccca
900
agggacttta ccaccctctt cgacctgtcc atcttccagc tggataccac ctccctccac
960
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1020
cctcagtttg agacgcgct gccaacctt cagcctcggg tttttctctc cagtttccgg
1080
gagttaccac ctccctctct ggagctattt gatttagatg aaacgtttct ctctgagaag
1140
gcacggctgg ctccagattac caataagtgt actgaagaag acctggaatt ttatgtcagg
1200
aagtgtgggt atattcttgg agtaaccagt aaactaccaa aggaccaaca ggatgcca
1260
catatccttg agcacgtctt cttccaagt gtggagttca agaaattgaa ccaggaacat
1320
gacatcgata caagtgaac agcattccag aacaatttct gaagaccatg cctcttgaag
1380
cttttctgct ctccctgattc tctctttgta aactatttct aaattgtttt tcaactcctt
1440
atcaaaaattg tttatacact ctttctccca tgagctctgg aaggtatatg catcttctgt
1500

aataactcaga taggtataag atttttcaca aaatccttat gtaagatata ttccattttt
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<210> 4806

<211> 438

<212> PRT

<213> Homo sapiens

<400> 4806

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Lys | Glu | Leu | Arg | Ser | Thr | Ile | Leu | Phe | Asn | Ala | Tyr | Lys | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Glu | Ile | Phe | Thr | Thr | Asn | Asn | Gly | Tyr | Lys | Ser | Met | Gln | Lys | Lys | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Arg | Ser | Asn | Trp | Lys | Ile | Gln | Ser | Leu | Lys | Asp | Glu | Ile | Thr | Ser | Glu |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Lys | Leu | Asn | Gly | Val | Lys | Leu | Trp | Ile | Thr | Ala | Gly | Pro | Arg | Glu | Lys |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Phe | Thr | Ala | Ala | Glu | Phe | Glu | Ile | Leu | Lys | Lys | Tyr | Leu | Asp | Thr | Gly |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Gly | Asp | Val | Leu | Val | Met | Leu | Gly | Glu | Gly | Gly | Glu | Ser | Arg | Phe | Asp |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Thr | Asn | Ile | Asn | Phe | Leu | Leu | Glu | Glu | Tyr | Gly | Ile | Met | Val | Asn | Asn |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Asp | Ala | Val | Val | Arg | Asn | Val | Tyr | His | Lys | Tyr | Phe | His | Pro | Lys | Glu |
| | | 115 | | | | 120 | | | | | | 125 | | | |
| Ala | Leu | Val | Ser | Ser | Gly | Val | Leu | Asn | Arg | Glu | Ile | Ser | Arg | Ala | Ala |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Gly | Lys | Ala | Val | Leu | Ala | Ile | Ile | Asp | Glu | Glu | Ser | Ser | Gly | Asn | Asn |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Ala | Gln | Ala | Leu | Thr | Phe | Val | Tyr | Pro | Phe | Gly | Ala | Thr | Leu | Ser | Val |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Met | Lys | Pro | Ala | Val | Ala | Val | Leu | Ser | Thr | Gly | Ser | Val | Cys | Phe | Pro |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Leu | Asn | Arg | Pro | Ile | Leu | Ala | Phe | Tyr | His | Ser | Lys | Asn | Gln | Gly | Gly |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Lys | Leu | Ala | Val | Leu | Gly | Ser | Cys | His | Met | Phe | Ser | Asp | Gln | Tyr | Leu |
| | | 210 | | | | 215 | | | | | | 220 | | | |
| Asp | Lys | Glu | Glu | Asn | Ser | Lys | Ile | Met | Asp | Val | Val | Val | Phe | Gln | Trp |
| 225 | | | | 230 | | | | | 235 | | | | | 240 | |
| Leu | Thr | Thr | Gly | Asp | Ile | His | Leu | Asn | Gln | Ile | Asp | Ala | Glu | Asp | Pro |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Glu | Ile | Ser | Asp | Tyr | Met | Met | Leu | Pro | Tyr | Thr | Ala | Thr | Leu | Ser | Lys |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Arg | Asn | Arg | Glu | Cys | Leu | Gln | Glu | Ser | Asp | Glu | Ile | Pro | Arg | Asp | Phe |
| | | 275 | | | | | | 280 | | | | | 285 | | |
| Thr | Thr | Leu | Phe | Asp | Leu | Ser | Ile | Phe | Gln | Leu | Asp | Thr | Thr | Ser | Phe |
| | | 290 | | | | 295 | | | | | 300 | | | | |
| His | Ser | Val | Ile | Glu | Ala | His | Glu | Gln | Leu | Asn | Val | Lys | His | Glu | Pro |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Leu | Gln | Leu | Ile | Gln | Pro | Gln | Phe | Glu | Thr | Pro | Leu | Pro | Thr | Leu | Gln |
| | | | 325 | | | | | 330 | | | | | | 335 | |
| Pro | Ala | Val | Phe | Pro | Pro | Ser | Phe | Arg | Glu | Leu | Pro | Pro | Pro | Pro | Leu |

agctctgttct tctcacacgt gtccggcctg ggctggctgg cctctacct gccctccttc
 1080
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<210> 4808

<211> 313

<212> PRT

<213> Homo sapiens

<400> 4808

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Pro | Met | Asn | Gly | Gln | Val | Cys | Val | Val | Thr | Gly | Ala | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Gly | Ile | Gly | Arg | Gly | Ile | Ala | Leu | Gln | Leu | Cys | Lys | Ala | Gly | Ala |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Thr | Val | Tyr | Ile | Thr | Gly | Arg | His | Leu | Asp | Thr | Leu | Arg | Val | Val | Ala |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Gln | Glu | Ala | Gln | Ser | Leu | Gly | Gly | Gln | Cys | Val | Pro | Val | Val | Cys | Asp |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Ser | Ser | Gln | Glu | Ser | Glu | Val | Arg | Ser | Leu | Phe | Glu | Gln | Val | Asp | Arg |
| 65 | | | | 70 | | | | | | 75 | | | | 80 | |
| Glu | Gln | Gln | Gly | Arg | Leu | Asp | Val | Leu | Val | Asn | Asn | Ala | Tyr | Ala | Gly |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Val | Gln | Thr | Ile | Leu | Asn | Thr | Arg | Asn | Lys | Ala | Phe | Trp | Glu | Thr | Pro |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Ala | Ser | Met | Trp | Asp | Asp | Ile | Asn | Asn | Val | Gly | Leu | Arg | Gly | His | Tyr |
| | | 115 | | | | 120 | | | | | 125 | | | | |
| Phe | Cys | Ser | Val | Tyr | Gly | Ala | Arg | Leu | Met | Val | Pro | Ala | Gly | Gln | Gly |
| | 130 | | | | | 135 | | | | 140 | | | | | |
| Leu | Ile | Val | Val | Ile | Ser | Pro | Gly | Ser | Leu | Gln | Tyr | Met | Phe | Asn | |
| 145 | | | | | 150 | | | | 155 | | | | | 160 | |
| Val | Pro | Tyr | Gly | Val | Gly | Lys | Ala | Ala | Cys | Asp | Lys | Leu | Ala | Ala | Asp |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Cys | Ala | His | Glu | Leu | Arg | Arg | His | Gly | Val | Ser | Cys | Val | Ser | Leu | Trp |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Pro | Gly | Ile | Val | Gln | Thr | Glu | Leu | Leu | Lys | Glu | His | Met | Ala | Lys | Glu |
| | 195 | | | | | 200 | | | | | | 205 | | | |
| Glu | Val | Leu | Gln | Asp | Pro | Val | Leu | Lys | Gln | Phe | Lys | Ser | Ala | Phe | Ser |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Ser | Ala | Glu | Thr | Thr | Glu | Leu | Ser | Gly | Lys | Cys | Val | Val | Ala | Leu | Ala |
| 225 | | | | 230 | | | | | 235 | | | | | 240 | |
| Thr | Asp | Pro | Asn | Ile | Leu | Ser | Leu | Ser | Gly | Lys | Val | Leu | Pro | Ser | Cys |
| | | | 245 | | | | | | 250 | | | | | 255 | |
| Asp | Leu | Ala | Arg | Arg | Tyr | Gly | Leu | Arg | Asp | Val | Asp | Gly | Arg | Pro | Val |
| | | 260 | | | | | 265 | | | | | 270 | | | |
| Gln | Asp | Tyr | Leu | Ser | Leu | Ser | Ser | Val | Leu | Ser | His | Val | Ser | Gly | Leu |
| | 275 | | | | | 280 | | | | | | 285 | | | |
| Gly | Trp | Leu | Ala | Ser | Tyr | Leu | Pro | Ser | Phe | Leu | Arg | Val | Pro | Lys | Trp |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ile | Ile | Ala | Leu | Tyr | Thr | Ser | Lys | Phe | | | | | | | |
| 305 | | | | | 310 | | | | | | | | | | |

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 <211> 999
 <212> DNA
 <213> Homo sapiens

<400> 4809
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<210> 4810
 <211> 120
 <212> PRT
 <213> Homo sapiens

<400> 4810
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 Val Ser Lys Ser Cys Leu Asp Ser Asp Pro Ala Gly Pro Phe Gln Gly
 20 25 30
 Ser Gln Pro Gly Cys His Ser Gly Leu Leu Thr Asn Thr Pro Ala Ala
 35 40 45
 Leu Val Pro Ala His Ala Arg Gln Arg Ser Gln Pro Ser Leu Leu Leu

| | | | | | |
|---|-----|-----|----|-----|----|
| 50 | | 55 | | 60 | |
| Ser Ser Ser Pro Arg Lys Ser Arg Ser Trp Gln Gly Ser Gly Pro Met | | | | | |
| 65 | | 70 | | 75 | 80 |
| Trp Pro Gly Pro Gly Tyr Phe Pro Asp Leu Thr Ser Pro Thr Ala Gln | | | | | |
| | 85 | | 90 | | 95 |
| Pro Leu Gln Leu Leu Gly Ala Leu His Gly Cys Ser Phe Pro Pro Pro | | | | | |
| | 100 | 105 | | 110 | |
| Leu Pro Ser Gly Gln Pro Cys Pro | | | | | |
| 115 | | 120 | | | |

<210> 4811

<211> 3207

<212> DNA

<213> Homo sapiens

<400> 4811

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1140

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2100
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2280
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2340
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2700
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2760

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 3180
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 3207

<210> 4812

<211> 306

<212> PRT

<213> Homo sapiens

<400> 4812

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 20 25 30
 Lys Val Thr Leu Pro Asn Tyr Asp Asn Val Pro Gly Asn Leu Met Leu
 35 40 45
 Ser Ala Leu Gly Leu Arg Leu Gly Asp Arg Val Leu Leu Asp Gly Gln
 50 55 60
 Lys Thr Gly Thr Leu Arg Phe Cys Gly Thr Thr Glu Phe Ala Ser Gly
 65 70 75 80
 Ser Trp Val Gly Val Glu Leu Asp Glu Pro Glu Gly Lys Asn Asp Gly
 85 90 95
 Ser Val Gly Gly Val Arg Tyr Phe Ile Cys Pro Pro Lys Gln Gly Leu
 100 105 110
 Phe Ala Ser Val Ser Lys Ile Ser Lys Ala Val Asp Ala Pro Pro Ser
 115 120 125
 Ser Val Thr Ser Thr Pro Gly Pro Pro Arg Met Asp Phe Ser Arg Val
 130 135 140
 Thr Gly Lys Gly Arg Arg Glu His Lys Gly Lys Lys Thr Pro Ser
 145 150 155 160
 Ser Pro Ser Leu Gly Ser Leu Gln Gln Arg Asp Gly Ala Lys Ala Glu
 165 170 175
 Val Gly Asp Gln Val Leu Val Ala Gly Gln Lys Gln Gly Ile Val Arg
 180 185 190
 Phe Tyr Gly Lys Thr Asp Phe Ala Pro Gly Tyr Trp Tyr Gly Ile Glu
 195 200 205
 Leu Asp Gln Pro Thr Gly Lys His Asp Gly Ser Val Phe Gly Val Arg
 210 215 220
 Tyr Phe Thr Cys Pro Pro Arg His Gly Val Phe Ala Pro Ala Ser Arg
 225 230 235 240
 Ile Gln Arg Ile Gly Gly Ser Thr Asp Ser Pro Gly Asp Ser Val Gly

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                245                250                255
Ala Lys Lys Val His Gln Val Thr Met Thr Gln Pro Lys Arg Thr Phe
                260                265                270
Thr Thr Val Arg Thr Pro Lys Asp Ile Ala Ser Glu Asn Ser Ile Ser
                275                280                285
Arg Leu Leu Phe Cys Cys Trp Phe Pro Trp Met Leu Arg Ala Glu Met
                290                295                300
Gln Ser
305

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<210> 4813
<211> 400
<212> DNA
<213> Homo sapiens

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120
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180
ctcgcccaca gggcttggtt tttctccagc ctgtccagga aaccaccatc atgattgtta
240
aacacagatt tgaacattca cgaagaaact tccagggtga gccaaacctt cttctcccc
300
actgcacctc caagcagcct tcctgaaagg gaaaagagta cagacctgcc ctctggggag
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ccctgtgccc tgccatgacc agcctttccc cttcaagcgt
400

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<210> 4814
<211> 125
<212> PRT
<213> Homo sapiens

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<400> 4814
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Phe Gln Glu Gly Cys Leu Glu Val Gln Trp Gly Gly Arg Gly Phe Gly
20          25          30
Ser Pro Trp Lys Phe Leu Arg Glu Cys Ser Asn Leu Cys Leu Thr Ile
35          40          45
Met Met Val Val Ser Trp Thr Ala Gly Gly Lys Ala Lys Pro Cys Gly
50          55          60
Arg Gly Gly Gly Leu Gln Arg Lys Ala Ala Ala Thr Thr Ala Ser Phe
65          70          75          80
Pro Thr His Ser His Trp Gln Thr Gly Gly Gln Val Gln Ser Pro Lys
85          90          95
Glu Thr Ala Ala Cys Ala Gly His Pro Pro Gly Thr Ala Phe Ser Leu
100         105         110
Ile Leu Pro Val Pro Pro Thr Cys Trp Val Ser Val Ala
115         120         125

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<210> 4815
 <211> 528
 <212> DNA
 <213> Homo sapiens

<400> 4815
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 120
 agcatgtcta caagctctgt acgcaaacga tctgaagggt aagagaagac attaacaggg
 180
 gacgtgaaaa ccagtcctcc acgaactgca ccaaagaaac agctaccttc tattcccaaa
 240
 aatgcttttg ccataactaa gcctacatca cctgccccag cagcacagtc aacaaatggc
 300
 acccatgcct cttacggacc cttctacctg gaatattcac tccttcgaga atttaccttg
 360
 gttgtgaagc agaagctacc aggcgtctat gtgcagccat cttatcgctc tgcattaatg
 420
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 480
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<210> 4816
 <211> 105
 <212> PRT
 <213> Homo sapiens

<400> 4816
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 20 25 30
 Arg Thr Ala Pro Lys Lys Gln Leu Pro Ser Ile Pro Lys Asn Ala Leu
 35 40 45
 Pro Ile Thr Lys Pro Thr Ser Pro Ala Pro Ala Ala Gln Ser Thr Asn
 50 55 60
 Gly Thr His Ala Ser Tyr Gly Pro Phe Tyr Leu Glu Tyr Ser Leu Leu
 65 70 75 80
 Ala Glu Phe Thr Leu Val Val Lys Gln Lys Leu Pro Gly Val Tyr Val
 85 90 95
 Gln Pro Ser Tyr Arg Ser Ala Leu Met
 100 105

<210> 4817
 <211> 1106
 <212> DNA
 <213> Homo sapiens

<400> 4817
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 180
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 240
 tgcagacagc agcttcatga tattactgta ccgttagaag tttttgaata tatagatcaa
 300
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 360
 caagttaaag gcaagatcga caccatgaag aaatttataa gcctgttgat tcaagaactt
 420
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 480
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 540
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 600
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 660
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 720
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 840
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 900
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 960
 attatatttt acattttcaa gtatagtga taaagaatgt tttaaatgta actgttttca
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 1080
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 1106

<210> 4818

<211> 135

<212> PRT

<213> Homo sapiens

<400> 4818

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Glu | Lys | Phe | Asp | His | Leu | Glu | Glu | His | Leu | Glu | Lys | Phe | Val |
| 1 | | | | 5 | | | | | | 10 | | | | 15 | |
| Glu | Asn | Ile | Arg | Gln | Leu | Gly | Ile | Ile | Val | Ser | Asp | Phe | Gln | Pro | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Gln | Ala | Gly | Leu | Asn | Gln | Lys | Leu | Asn | Phe | Ile | Val | Thr | Gly | Leu |
| | | | 35 | | | | 40 | | | | 45 | | | | |
| Gln | Asp | Ile | Asp | Lys | Cys | Arg | Gln | Gln | Leu | His | Asp | Ile | Thr | Val | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Glu | Val | Phe | Glu | Tyr | Ile | Asp | Gln | Gly | Arg | Asn | Pro | Gln | Leu | Tyr |
| | 65 | | | | 70 | | | | 75 | | | | 80 | | |
| Thr | Lys | Glu | Cys | Leu | Glu | Arg | Ala | Leu | Ala | Lys | Asn | Glu | Gln | Val | Lys |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 85 | | 90 | | 95 | | | | | | | | | | |
| Gly | Lys | Ile | Asp | Thr | Met | Lys | Lys | Phe | Lys | Ser | Leu | Leu | Ile | Gln | Glu |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Leu | Ser | Lys | Val | Phe | Pro | Glu | Asp | Met | Ala | Lys | Tyr | Arg | Ser | Ile | Arg |
| | | 115 | | | | | 120 | | | | | | 125 | | |
| Gly | Glu | Asp | His | Pro | Pro | Ser | | | | | | | | | |
| | 130 | | | | | 135 | | | | | | | | | |

<210> 4819

<211> 1655

<212> DNA

<213> Homo sapiens

<400> 4819

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 180
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 420
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 1200

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 1560
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 1620
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 1655

<210> 4820

<211> 551

<212> PRT

<213> Homo sapiens

<400> 4820

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| Arg | Pro | Arg | Pro | Gly | Leu | Arg | Gly | Gly | Arg | Ala | Pro | Cys | Glu | Val | Thr |
| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Met | Glu | Ala | Gly | Gly | Leu | Pro | Leu | Glu | Leu | Trp | Arg | Met | Ile | Leu | Ala |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Tyr | Leu | His | Leu | Pro | Asp | Leu | Gly | Arg | Cys | Ser | Leu | Val | Cys | Arg | Ala |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Trp | Tyr | Glu | Leu | Ile | Leu | Ser | Leu | Asp | Ser | Thr | Arg | Trp | Arg | Gln | Leu |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Cys | Leu | Gly | Cys | Thr | Glu | Cys | Arg | His | Pro | Asn | Trp | Pro | Asn | Gln | Pro |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Asp | Val | Glu | Pro | Glu | Ser | Trp | Arg | Glu | Ala | Phe | Lys | Gln | His | Tyr | Leu |
| | | 85 | | | | | | 90 | | | | | 95 | | |
| Ala | Ser | Lys | Thr | Trp | Thr | Lys | Asn | Ala | Leu | Asp | Leu | Glu | Ser | Ser | Ile |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Cys | Phe | Ser | Leu | Phe | Arg | Arg | Arg | Arg | Glu | Arg | Arg | Thr | Leu | Ser | Val |
| | | 115 | | | | 120 | | | | | 125 | | | | |
| Gly | Pro | Gly | Arg | Glu | Phe | Asp | Ser | Leu | Gly | Ser | Ala | Leu | Ala | Met | Ala |
| | | 130 | | | 135 | | | | | 140 | | | | | |
| Ser | Leu | Tyr | Asp | Arg | Ile | Val | Leu | Phe | Pro | Gly | Val | Tyr | Glu | Glu | Gln |
| 145 | | | | 150 | | | | | | 155 | | | | | 160 |
| Gly | Glu | Ile | Ile | Leu | Lys | Val | Pro | Val | Glu | Ile | Val | Gly | Gln | Gly | Lys |
| | | 165 | | | | | 170 | | | | | | 175 | | |
| Leu | Gly | Glu | Val | Ala | Leu | Leu | Ala | Ser | Ile | Asp | Gln | His | Cys | Ser | Thr |
| | | 180 | | | | | 185 | | | | | 190 | | | |
| Thr | Arg | Leu | Cys | Asn | Leu | Val | Phe | Thr | Pro | Ala | Trp | Phe | Ser | Pro | Ile |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Met | Tyr | Lys | Thr | Thr | Ser | Gly | His | Val | Gln | Phe | Asp | Asn | Cys | Asn | Phe |
| | | 210 | | | | 215 | | | | | 220 | | | | |
| Glu | Asn | Gly | His | Ile | Gln | Val | His | Gly | Pro | Gly | Thr | Cys | Gln | Val | Lys |
| 225 | | | | 230 | | | | | | 235 | | | | 240 | |
| Phe | Cys | Thr | Phe | Lys | Asn | Thr | His | Ile | Phe | Leu | His | Asn | Val | Pro | Leu |

245 250 255
 Cys Val Leu Glu Asn Cys Glu Phe Val Gly Ser Glu Asn Asn Ser Val
 260 265 270
 Thr Val Glu Gly His Pro Ser Ala Asp Lys Asn Trp Ala Tyr Lys Tyr
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 Leu Leu Gly Leu Ile Lys Ser Ser Pro Thr Phe Leu Pro Thr Glu Asp
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 Ser Asp Phe Leu Met Ser Leu Asp Leu Glu Ser Arg Asp Gln Ala Trp
 305 310 315 320
 Ser Pro Lys Thr Cys Asp Ile Val Ile Glu Gly Ser Gln Ser Pro Thr
 325 330 335
 Ser Pro Ala Ser Ser Ser Pro Lys Pro Gly Ser Lys Ala Gly Ser Gln
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 Glu Ala Glu Val Gly Ser Asp Gly Glu Arg Val Ala Gln Thr Pro Asp
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 Ser Ser Asp Gly Gly Leu Ser Pro Ser Gly Glu Asp Glu Asp Glu Asp
 370 375 380
 Gln Leu Met Tyr Arg Leu Ser Tyr Gln Val Gln Gly Pro Arg Pro Val
 385 390 395 400
 Leu Gly Gly Ser Phe Leu Gly Pro Pro Leu Pro Gly Ala Ser Ile Gln
 405 410 415
 Leu Pro Ser Cys Leu Val Leu Asn Ser Leu Gln Gln Glu Leu Gln Lys
 420 425 430
 Asp Lys Glu Ala Met Ala Leu Ala Asn Ser Val Gln Gly Cys Leu Ile
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 Arg Lys Cys Leu Phe Arg Asp Gly Lys Gly Gly Val Phe Val Cys Ser
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 His Gly Arg Ala Lys Met Glu Gly Asn Ile Phe Arg Asn Leu Thr Tyr
 465 470 475 480
 Ala Val Arg Cys Ile His Asn Ser Lys Ile Met Leu Arg Asn Asp
 485 490 495
 Ile Tyr Arg Cys Arg Ala Ser Gly Ile Phe Leu Arg Leu Glu Gly Gly
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 Gly Leu Ile Ala Gly Asn Asn Ile Tyr His Asn Ala Glu Ala Gly Val
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<211> 585

<212> DNA

<213> Homo sapiens

<400> 4821

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<210> 4822

<211> 195

<212> PRT

<213> Homo sapiens

<400> 4822

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 35 40 45
 Glu Ala Arg Tyr Tyr Leu Val Gln Gly Leu Ile Glu Asp Cys Gln Leu
 50 55 60
 Ala Leu Gln Gln Lys Arg Glu Thr Leu Ser Pro Leu Cys Leu Ile Pro
 65 70 75 80
 Met Val Thr Ser Pro Arg Glu Glu Gln Gln Leu Leu Ala Ser Thr Ser
 85 90 95
 Lys Pro Val Val Lys Leu Leu His Asn Arg Ser Asn Asn Lys Tyr Ser
 100 105 110
 Tyr Thr Ser Thr Ser Asp Asp Asn Leu Leu Lys Asn Ile Glu Leu Phe
 115 120 125
 Asp Lys Leu Ala Leu Arg Phe His Gly Arg Leu Leu Phe Leu Lys Asp
 130 135 140
 Val Leu Gly Asp Glu Ile Cys Cys Trp Ser Phe Tyr Gly Gln Gly Arg
 145 150 155 160
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<210> 4823

<211> 1984

<212> DNA

<213> Homo sapiens

<400> 4823

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<210> 4824

<211> 547

<212> PRT

<213> Homo sapiens

<400> 4824

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| Lys | Ser | Thr | Gly | Ser | Lys | Lys | Ala | Asn | Arg | Phe | His | Pro | Tyr | Ser | Lys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Asp | Lys | Asn | Ser | Gly | Thr | Gly | Glu | Lys | Lys | Gly | Pro | Asn | Arg | Asn | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Val | Phe | Ile | Ser | Asn | Ile | Pro | Tyr | Asp | Met | Lys | Trp | Gln | Ala | Ile | Lys |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Asp | Leu | Met | Arg | Glu | Lys | Val | Gly | Glu | Val | Thr | Tyr | Val | Glu | Leu | Phe |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Lys | Asp | Ala | Glu | Gly | Lys | Ser | Arg | Gly | Cys | Gly | Val | Val | Glu | Phe | Lys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Asp | Glu | Glu | Phe | Val | Lys | Lys | Ala | Leu | Glu | Thr | Met | Asn | Lys | Tyr | Asp |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Leu | Ser | Gly | Arg | Pro | Leu | Asn | Ile | Lys | Glu | Asp | Pro | Asp | Gly | Glu | Asn |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Ala | Arg | Arg | Ala | Leu | Gln | Arg | Thr | Gly | Gly | Ser | Phe | Pro | Gly | Gly | His |
| | | | 130 | | | 135 | | | | | 140 | | | | |
| Val | Pro | Asp | Met | Gly | Ser | Gly | Leu | Met | Asn | Leu | Pro | Pro | Ser | Ile | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Asn | Asn | Pro | Asn | Ile | Pro | Pro | Glu | Val | Ile | Ser | Asn | Leu | Gln | Ala | Gly |
| | | | | 165 | | | | | 170 | | | | | | 175 |
| Arg | Leu | Gly | Ser | Thr | Ile | Phe | Val | Ala | Asn | Leu | Asp | Phe | Lys | Val | Gly |
| | | | 180 | | | | 185 | | | | | | 190 | | |
| Trp | Lys | Lys | Leu | Lys | Glu | Val | Phe | Ser | Ile | Ala | Gly | Thr | Val | Lys | Arg |
| | | | 195 | | | | 200 | | | | | 205 | | | |
| Ala | Asp | Ile | Lys | Glu | Asp | Lys | Asp | Gly | Lys | Ser | Arg | Gly | Met | Gly | Thr |
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| Val | Thr | Phe | Glu | Gln | Ala | Ile | Glu | Ala | Val | Gln | Ala | Ile | Ser | Met | Phe |
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| Asn | Gly | Gln | Phe | Leu | Phe | Asp | Arg | Pro | Met | His | Val | Lys | Met | Asp | Asp |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Lys | Ser | Val | Pro | His | Glu | Glu | Tyr | Arg | Ser | Pro | Asp | Gly | Lys | Thr | Pro |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Gln | Leu | Pro | Arg | Gly | Leu | Gly | Gly | Ile | Gly | Met | Gly | Leu | Gly | Pro | Gly |

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 Met Asn Arg Ile Gly Gly Gly Ile Gly Phe Gly Gly Leu Glu Ala Met
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 Arg Gly Ala Met Thr Ser Ser Met Glu Arg Asp Phe Gly Arg Gly Asp
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 Ile Gly Ile Asn Arg Ala Phe Gly Asp Ser Phe Gly Arg Leu Gly Ser
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 Ala Met Ile Gly Gly Ile Thr Gly Arg Ile Gly Ser Ser Asn Met Gly
 385 390 395 400
 Pro Val Gly Ser Gly Ile Ser Gly Gly Met Gly Ser Met Asn Ser Val
 405 410 415
 Thr Gly Gly Met Gly Met Gly Leu Asp Arg Met Ser Ser Ser Phe Asp
 420 425 430
 Arg Met Gly Pro Gly Ile Gly Ala Ile Leu Glu Arg Ser Ile Asp Met
 435 440 445
 Asp Arg Gly Phe Leu Ser Gly Pro Met Gly Ser Gly Met Arg Glu Arg
 450 455 460
 Ile Gly Ser Lys Gly Asn Gln Ile Phe Val Arg Asn Leu Pro Phe Asp
 465 470 475 480
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<211> 2380

<212> DNA

<213> Homo sapiens

<400> 4825

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<211> 105

<212> PRT

<213> Homo sapiens

<400> 4826

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| Lys | Glu | Tyr | Gln | Glu | Thr | Ile | Asp | Gln | Ile | Glu | Leu | Glu | Leu | Ala | Thr |
| | | | 20 | | | | 25 | | | | | 30 | | | |
| Ala | Lys | Asn | Asp | Met | Asn | Arg | His | Leu | His | Glu | Tyr | Met | Glu | Met | Cys |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Ser | Met | Lys | Arg | Gly | Leu | Asp | Val | Gln | Met | Glu | Thr | Cys | Arg | Arg | Leu |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Ile | Thr | Gln | Ser | Gly | Asp | Arg | Lys | Ser | Pro | Ala | Phe | Thr | Ala | Val | Pro |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Leu | Ser | Asp | Pro | Pro | Pro | Pro | Ser | Glu | Ala | Glu | Asp | Ser | Asp | Arg | |
| | | | 85 | | | | 90 | | | | | | 95 | | |
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<211> 6277

<212> DNA

<213> Homo sapiens

<400> 4827

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<211> 578

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<213> Homo sapiens

<400> 4831

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120
ggcgcccgagc acgggggacga gccgcgccac ggggggcctca ctctgcgcct gggcctccac
180
cagcagagcg tgctcggcgg ccaggaccag ctgcgcgtcc gtgtgacgga gctggaggagc
240
gaggtgcgca acctgcgcaa gatcaatcgg gacctgttcg acttctccac gcgcttcac
300
acgcggcccg ccaagtgagg ccgagagacc ccggcccagc gcgcccaggc ctgagcccca
360
tgcctcccag caaccagggc ccgcggtgtg gggccccacc agcccaggcc tggactctcc
420
tcagtcttgt gtcgtgttcg ggtttttcct ctgtgactgg gccgtcttgg tgtctcgtgg
480
cacgcgtcac agtggtgcta gtctgttttt aacaaaagag gatgaaaagc caaaaaaaaaa
540
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
578

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<210> 4832

<211> 105

<212> PRT

<213> Homo sapiens

<400> 4832

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Arg Thr Val Ala Leu Lys Gly Pro Val Thr Asn Ala Ala Ile Leu Leu
1          5          10          15
Ala Pro Val Ser Met Leu Ser Ser Asp Phe Arg Pro Ser Leu Pro Leu

```

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| 20 | | | | | | | | | | 25 | | | | | 30 | | | | |
| Pro | His | Phe | Asn | Lys | His | Leu | Leu | Gly | Ala | Glu | His | Gly | Asp | Glu | Pro | | | | |
| 35 | | | | | 40 | | | | | 45 | | | | | | | | | |
| Arg | His | Gly | Gly | Leu | Thr | Leu | Arg | Leu | Gly | Leu | His | Gln | Gln | Ser | Val | | | | |
| 50 | | | | | 55 | | | | | 60 | | | | | | | | | |
| Leu | Gly | Gly | Gln | Asp | Gln | Leu | Arg | Val | Arg | Val | Thr | Glu | Leu | Glu | Asp | | | | |
| 65 | | | | | 70 | | | | | 75 | | | | | | | | | |
| Glu | Val | Arg | Asn | Leu | Arg | Lys | Ile | Asn | Arg | Asp | Leu | Phe | Asp | Phe | Ser | | | | |
| 85 | | | | | 90 | | | | | 95 | | | | | | | | | |
| Thr | Arg | Phe | Ile | Thr | Arg | Pro | Ala | Lys | | | | | | | | | | | |
| 100 | | | | | 105 | | | | | | | | | | | | | | |

<210> 4833

<211> 872

<212> DNA

<213> Homo sapiens

<400> 4833

| | | | | | | |
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| 120 | ctttgagaag | gaactgagta | ggcagtgaga | agagtcgagt | gaagcctggc | ccgtgagtg |
| 180 | ctcaacaact | gagatgaacg | tcgactcgct | tcgaggcaag | ttgtcactca | gcagcgatct |
| 240 | gaactatatc | ctgggttcca | gaaaaggcag | aggttcttac | cgaagacagg | ggagggaagcc |
| 300 | gcagcccaag | gaggctgtca | cttgccggga | agggtgctcg | ggccaggctg | cactcaaaac |
| 360 | ccgtgtctctg | tccacactgc | tacggggcca | gagccaagga | agcttccact | tcttccccca |
| 420 | gcagacccca | acagcggcta | ccccaggagg | ccagcagcct | tgtgtcctgg | gatccccagc |
| 480 | ccctgcagaa | tgacccacca | ggatctgagc | atcacagcca | aactcactaa | tggagggtga |
| 540 | gcaggggctcg | tgggggtgac | ctgcgtgttc | cccacgcact | tggccaagac | tgcctgcag |
| 600 | aaccagcatg | ggaagccat | gtacaaagga | atgatcgact | gcctgatgaa | gacggctcgg |
| 660 | gcggaggggct | tcttcggcat | gtaccgaggg | gctgcagtga | acctcactct | ggtcactcca |
| 720 | gagaaggcca | tcaagctggc | ggccaacgac | tttttcggcg | ggctgtctat | ggaagatggg |
| 780 | atgcagcgga | acctgaagat | ggagatgctt | gccgggtgtg | gggctgggat | gtgccaggtc |
| 840 | gtggtgacct | gtcccatgga | aatgctcaag | attcagctgc | aggcatgctg | gaagcctggc |
| 872 | cgctcatcat | cagggtctcg | cctcagcacc | ct | | |

<210> 4834

<211> 147

<212> PRT

<213> Homo sapiens

<400> 4834

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Met Thr His Gln Asp Leu Ser Ile Thr Ala Lys Leu Ile Asn Gly Gly
 1           5           10          15
Val Ala Gly Leu Val Gly Val Thr Cys Val Phe Pro Ile Asp Leu Ala
      20           25           30
Lys Thr Arg Leu Gln Asn Gln His Gly Lys Ala Met Tyr Lys Gly Met
      35           40           45
Ile Asp Cys Leu Met Lys Thr Ala Arg Ala Glu Gly Phe Phe Gly Met
      50           55           60
Tyr Arg Gly Ala Ala Val Asn Leu Thr Leu Val Thr Pro Glu Lys Ala
      65           70           75           80
Ile Lys Leu Ala Ala Asn Asp Phe Phe Arg Arg Leu Leu Met Glu Asp
      85           90           95
Gly Met Gln Arg Asn Leu Lys Met Glu Met Leu Ala Gly Cys Gly Ala
      100          105          110
Gly Met Cys Gln Val Val Val Thr Cys Pro Met Glu Met Leu Lys Ile
      115          120          125
Gln Leu Gln Ala Cys Trp Thr Pro Gly Arg Pro Ser Ser Gly Leu Gly
      130          135          140
Leu Ser Thr
145

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<210> 4835

<211> 1846

<212> DNA

<213> Homo sapiens

<400> 4835

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120
cagtgggaga tccagaatac cagccatctg gccgttgatg gggaccgggc agctgcttgg
180
cccgtgggta ttccagcacc atcccggccc gcctcccgtt ttgaggtgct ggcctgggac
240
tacttcacgg agcagcacgc tttctctctg gccgatggct caccctcgct cccactgcgt
300
ggggctgacc gggctgatgt ggccgatgtt ctggggacag ctctagagga gctgaaccgc
360
cgctaccacc cggccttgcg gctccagaag cagcagctgg tgaatggcta ccgacgcttt
420
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480
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540
atcttgcctg tgccctatgt cactgaggcc tcacgtctca ctgtgtctgt gcctctagct
600
gcggctgagc gtgacctggc cctgggcttc ttggaggcct ttgccactgc agcactggag
660
cctgggtgat ctgcggcagc cctgacctg ctgtactgtg atgagccgcg ccaggccag
720
cgctggcccc atgcagatgt cttcgacct gtcaaggccc acgtggcaga gctggagcgg
780

```

cgtttccccc gtgccccggg gccatggctc agtgtgcaga cagccgcacc ctcaccactg
 840
 cgcctcatgg atctactctc caagaagcac ccgctggaca cactgttctt gctggccggg
 900
 ccagacacgg tgetcacgccc tgacttctct aaccgctgcc gcatgcatgc catctccggc
 960
 tggcaggcct tctttcccat gcatttccaa gccttccacc cagctgtggc cccaccacaa
 1020
 gggcctgggc ccccagagct ggggcccgtga cactggccgc ttgatcgcc aggagccag
 1080
 cgaggcctgc ttctacaact ccgactacgt ggcagcccggt gggcgccctg gcgcagctca
 1140
 gaacaagaag aggagctgct ggagagccgt gatgtgtacg agctgttctt ccacttctcc
 1200
 agtctgcatg tgctgcgggc ggtggagcgg cgctgctgca gccgctaccg gggccagacg
 1260
 tgcagcgcca ggctcagtga ggacctgtac caccgctgcc tccagagcgt gcttgagggc
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 1380
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 1440
 caaaaaccaga gccacctgcc agcctcgtgt ggcaggggct gccgtagcca gaccccaagc
 1500
 tggccccactg gtccccctctc tggctctgtg ggtccctggg ctctggacaa gcaactgggg
 1560
 acgtgcccc agagccacc acttctcctc ccaaaaccag ttccctgccc ccttgacgct
 1620
 gctgattcgg gctgtggcct ccacgtattt atgcagtaca gtctgctga cgccagccct
 1680
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 1740
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 1800
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 1846

<210> 4836

<211> 349

<212> PRT

<213> Homo sapiens

<400> 4836

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | His | Phe | Arg | Ser | Ala | Leu | Thr | Ala | His | Pro | Val | Arg | Asp | Pro | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| His | Met | Tyr | Gln | Leu | His | Lys | Ala | Phe | Ala | Arg | Ala | Glu | Leu | Glu | Arg |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Thr | Tyr | Gln | Glu | Ile | Gln | Glu | Leu | Gln | Trp | Glu | Ile | Gln | Asn | Thr | Ser |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| His | Leu | Ala | Val | Asp | Gly | Asp | Arg | Ala | Ala | Ala | Trp | Pro | Val | Gly | Ile |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Pro | Ala | Pro | Ser | Arg | Pro | Ala | Ser | Arg | Phe | Glu | Val | Leu | Arg | Trp | Asp |
| 65 | | | | | 70 | | | | 75 | | | | 80 | | |
| Tyr | Phe | Thr | Glu | Gln | His | Ala | Phe | Ser | Cys | Ala | Asp | Gly | Ser | Pro | Arg |

```

      85              90              95
Cys Pro Leu Arg Gly Ala Asp Arg Ala Asp Val Ala Asp Val Leu Gly
      100              105              110
Thr Ala Leu Glu Glu Leu Asn Arg Arg Tyr His Pro Ala Leu Arg Leu
      115              120              125
Gln Lys Gln Gln Leu Val Asn Gly Tyr Arg Arg Phe Asp Pro Ala Arg
      130              135              140
Gly Met Glu Tyr Thr Leu Asp Leu Gln Leu Glu Ala Leu Thr Pro Gln
      145              150              155
Gly Gly Arg Arg Pro Leu Thr Arg Arg Val Gln Leu Leu Arg Pro Leu
      165              170              175
Ser Arg Val Glu Ile Leu Pro Val Pro Tyr Val Thr Glu Ala Ser Arg
      180              185              190
Leu Thr Val Leu Leu Pro Leu Ala Ala Glu Arg Asp Leu Ala Pro
      195              200              205
Gly Phe Leu Glu Ala Phe Ala Thr Ala Ala Leu Glu Pro Gly Asp Ala
      210              215              220
Ala Ala Ala Leu Thr Leu Leu Leu Tyr Glu Pro Arg Gln Ala Gln
      225              230              235
Arg Val Ala His Ala Asp Val Phe Ala Pro Val Lys Ala His Val Ala
      245              250              255
Glu Leu Glu Arg Arg Phe Pro Gly Ala Arg Val Pro Trp Leu Ser Val
      260              265              270
Gln Thr Ala Ala Pro Ser Pro Leu Arg Leu Met Asp Leu Leu Ser Lys
      275              280              285
Lys His Pro Leu Asp Thr Leu Phe Leu Leu Ala Gly Pro Asp Thr Val
      290              295              300
Leu Thr Pro Asp Phe Leu Asn Arg Cys Arg Met His Ala Ile Ser Gly
      305              310              315
Trp Gln Ala Phe Phe Pro Met His Phe Gln Ala Phe His Pro Ala Val
      325              330              335
Ala Pro Pro Gln Gly Pro Gly Pro Pro Glu Leu Gly Pro
      340              345

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<210> 4837

<211> 906

<212> DNA

<213> Homo sapiens

<400> 4837

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120
actgtaaatt atgatagtgt caattctgac aactctaagc caaagatatt taaaagtcaa
180
atagagaaca taaatttgac caatggcagc aatgggagga acacagagtc cccagctgcc
240
attcacccct gtgaaatcc tacagtgatt gaggacgctt tggacaagat taaaagcaat
300
gaccctgaca ccacagaagt caatttgaac aacattgaga acatcacaac acagaccctt
360
accgctttg ctgaagccct caaggacaac actgtggtga agacgttcag tctggccaac
420

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acgcatgccg acgacagtgc agccatggcc attgcagaga tgctcaaagt caatgagcac
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 540
 agagctctcc agcacaacac ggtgctcacg gagctgcgtt tccataacca gagggacatc
 600
 atggggcagcc aggtggaaat ggagattgtc aagctgctga aggagaacac gacgtgctg
 660
 aggctgggat accattttga actcccagga ccaagaatga gcatgacgag cattttgaca
 720
 agaaatatgg ataacagag gcaaaaacgt ttgcaggagc aaaaacagca ggagggatac
 780
 gatggaggac ccaatcttag gaccaaagtc tggcaaagag gaacacctag ccttccctct
 840
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 900
 acgcgt
 906

<210> 4838

<211> 302

<212> PRT

<213> Homo sapiens

<400> 4838

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Gly | Glu | Glu | Glu | Glu | Val | Val | Ala | Ala | Phe | Gly | Lys | Lys | Glu | Ser |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | |
| Gln | Glu | Glu | Glu | Glu | Glu | Asp | Ser | Asp | Glu | Gly | Glu | Arg | Thr | Ile | |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Glu | Thr | Ala | Lys | Gly | Ile | Asn | Gly | Thr | Val | Asn | Tyr | Asp | Ser | Val | Asn |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Ser | Asp | Asn | Ser | Lys | Pro | Lys | Ile | Phe | Lys | Ser | Gln | Ile | Glu | Asn | Ile |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Asn | Leu | Thr | Asn | Gly | Ser | Asn | Gly | Arg | Asn | Thr | Glu | Ser | Pro | Ala | Ala |
| 65 | | | 70 | | | | | 75 | | | | | | 80 | |
| Ile | His | Pro | Cys | Gly | Asn | Pro | Thr | Val | Ile | Glu | Asp | Ala | Leu | Asp | Lys |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Ile | Lys | Ser | Asn | Asp | Pro | Asp | Thr | Thr | Glu | Val | Asn | Leu | Asn | Asn | Ile |
| | | 100 | | | | | 105 | | | | | 110 | | | |
| Glu | Asn | Ile | Thr | Thr | Gln | Thr | Leu | Thr | Arg | Phe | Ala | Glu | Ala | Leu | Lys |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Asp | Asn | Thr | Val | Val | Lys | Thr | Phe | Ser | Leu | Ala | Asn | Thr | His | Ala | Asp |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Asp | Ser | Ala | Ala | Met | Ala | Ile | Ala | Glu | Met | Leu | Lys | Val | Asn | Glu | His |
| 145 | | | | 150 | | | | 155 | | | | | | 160 | |
| Ile | Thr | Asn | Val | Asn | Val | Glu | Ser | Asn | Phe | Ile | Thr | Gly | Lys | Gly | Ile |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Leu | Ala | Ile | Met | Arg | Ala | Leu | Gln | His | Asn | Thr | Val | Leu | Thr | Glu | Leu |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Arg | Phe | His | Asn | Gln | Arg | His | Ile | Met | Gly | Ser | Gln | Val | Glu | Met | Glu |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Ile | Val | Lys | Leu | Leu | Lys | Glu | Asn | Thr | Thr | Leu | Leu | Arg | Leu | Gly | Tyr |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| His | Phe | Glu | Leu | Pro | Gly | Pro | Arg | Met | Ser | Met | Thr | Ser | Ile | Leu | Thr |

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 | | | | | 230 | | | | | 235 | | | | 240 |
| Arg | Asn | Met | Asp | Lys | Gln | Arg | Gln | Lys | Arg | Leu | Gln | Glu | Gln | Lys |
| | | | | 245 | | | | | 250 | | | | | 255 |
| Gln | Glu | Gly | Tyr | Asp | Gly | Gly | Pro | Asn | Leu | Arg | Thr | Lys | Val | Trp |
| | | | 260 | | | | | 265 | | | | | 270 | |
| Arg | Gly | Thr | Pro | Ser | Pro | Ser | Pro | Tyr | Val | Ser | Pro | Arg | His | Ser |
| | | | 275 | | | | 280 | | | | | 285 | | |
| Trp | Ser | Ser | Pro | Lys | Leu | Pro | Tyr | Gly | Glu | Thr | Thr | Thr | Arg | |
| | 290 | | | | | 295 | | | | | 300 | | | |

<210> 4839

<211> 1313

<212> DNA

<213> Homo sapiens

<400> 4839

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120
tccccggggc cgccccggcc tgatggccac tcacgtata gcgccacctc tgtctctggg
180
catccccgcg cagcagtgtg gccccagacc cggcgcgctg aatgctctcc ctccggatcg
240
ctgctcggtt cccactttg gcgaccgntg ccccgagtc ctgcttcccc ggggcctgct
300
ctgtatcagg cgcctgcgcc ttcaagggtg cccggccgc ctgccctccc caagagccga
360
gtttgcgctc ctcccgaat cgttttagag aaggacaaac ttttggcagg atggaaatct
420
agatgagcct gtccggagca gaacaccctt gattagccag gccaccgcc atcacatctt
480
gctcggcaaa gaaggaagcg agcttgttcc agaccttggt gacgagctgc agactgcctg
540
cctagaacag cctccttact ccagcctggc agggaaggaa ggaacctgac ttgcttcgca
600
ggatcttgaa gctcagcccg cagagctgag agccgcagtt gcatcctgga gctctgatgt
660
agaagcagct tccgtctttg ggttcttctg gcctcggcct ctgctctggt cagtttctgt
720
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780
aggcccctaa tccttcccca tgccctccatc agcctcaaag ctgctgacag tcatgaactg
840
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900
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960
catttggggg tcaaagtga gaccagattg cttcagtttg tataaaatta gcatttctta
1020
tcacaccaag gccacacctg ttctctggcc tcacaaacca gtgaggatgt aaaggtttgt
1080
tgagggtggg gaacagaagt gaaatgagca atctgctcca tttagaagtc agtcgcttcg
1140

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gctgttcatt ccactaatat ttatctagta cctattctgt gccaaagcatt gtctctacct
 1200
 cagtttgcca caaatatgaa aaaaaaaaaa ttcttggaac tgtgaggctt caatgtgttg
 1260
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 1313

<210> 4840

<211> 66

<212> PRT

<213> Homo sapiens

<400> 4840

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Leu | Arg | Ala | Pro | Thr | Arg | Gly | Arg | Gly | Asn | Val | Val | Gly | Trp |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | |
| Gly | Thr | Pro | Ala | Arg | Gln | Lys | Leu | Glu | Lys | Ala | Arg | Asp | Val | Ala | Arg |
| | | | 20 | | | | 25 | | | | | 30 | | | |
| Asp | Pro | Gly | Thr | Ser | Pro | Ser | Ser | Ser | Pro | Gly | Pro | Pro | Gly | Pro | Asp |
| | | 35 | | | | 40 | | | | 45 | | | | | |
| Gly | His | Ser | Arg | Tyr | Ser | Ala | His | Ser | Val | Leu | Gly | His | Pro | Ala | Pro |
| | 50 | | | | 55 | | | | 60 | | | | | | |
| Ala | Val | | | | | | | | | | | | | | |
| 65 | | | | | | | | | | | | | | | |

<210> 4841

<211> 558

<212> DNA

<213> Homo sapiens

<400> 4841

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 120
 ctggacgtcc attccatgca ccagctggag aagaccacca atgctgagat gagggagggtg
 180
 ctggctgagc tgctggagct aggggtgtcct gagcagagcc tgagggagcgc catcacctg
 240
 gacctcttct gccacgcgct cattttctgc cgccagcagg gcttctcact ggagcagagc
 300
 tcagcggtct gtgcctgct ccaggatctt cacaaggctt gtattggcca catccacgtc
 360
 ctccgagcct acatcaagac ccaagtgaac aaagagctgg agcagctcca ggggctggtg
 420
 gaggagcgct caaggccagc gaggaaggc tcagcagcaa gttgactgca ctgagcggc
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 540
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 558

<210> 4842

<211> 118

<212> PRT

<213> Homo sapiens

<400> 4842

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Met Trp Lys Tyr Leu Asp Val His Ser Met His Gln Leu Glu Lys Thr
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Thr Asn Ala Glu Met Arg Glu Val Leu Ala Glu Leu Leu Glu Leu Gly
 20          25          30
Cys Pro Glu Gln Ser Leu Arg Asp Ala Ile Thr Leu Asp Leu Phe Cys
 35          40          45
His Ala Leu Ile Phe Cys Arg Gln Gln Gly Phe Ser Leu Glu Gln Thr
 50          55          60
Ser Ala Ala Cys Ala Leu Leu Gln Asp Leu His Lys Ala Cys Ile Gly
 65          70          75          80
His Ile His Val Leu Arg Ala Tyr Ile Lys Thr Gln Val Asn Lys Glu
 85          90          95
Leu Glu Gln Leu Gln Gly Leu Val Glu Glu Arg Ser Arg Pro Ala Arg
100          105          110
Lys Gly Ser Ala Ala Ser
115

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<210> 4843

<211> 6403

<212> DNA

<213> Homo sapiens

<400> 4843

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120
gcgcccggcc gcgacgcccg ggaccagat tgcgggttca gttggccttt accagagttt
180
gatccaagcc agattcgact gattgtatat caagactgtg aaagacgagg gagaatgtt
240
ttgtttgact ccagtgttaa gagaagaaat gaggacatat cagtatcgga cttaaatact
300
atttattctt atcttcatgg aatggaaata ttatcaaact tcagggaaca tcagcttaga
360
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<210> 4846

<211> 626

<212> PRT

<213> Homo sapiens

<400> 4846

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Phe Glu His Asn Gly Glu Arg Arg Ile Ile Ala Phe Ser Arg Pro Val
50 55 60
Lys Tyr Glu Asp Val Glu His Lys Val Thr Thr Val Phe Gly Gln Pro
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Gln Asp Asp Leu Asp Lys Ala Ile Asp Ile Leu Asp Arg Ser Ser Ser

100 105 110
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 115 120 125
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 130 135 140
 Ser Gln Ser Ala Gly Asp Ile Asn Thr Ile Tyr Gln Pro Pro Glu Pro
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 Arg Ser Arg His Leu Ser Val Ser Ser Gln Asn Pro Gly Arg Ser Ser
 165 170 175
 Pro Pro Pro Gly Tyr Val Pro Glu Arg Gln Gln His Ile Ala Arg Gln
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 Gly Ser Tyr Thr Ser Ile Asn Ser Glu Gly Glu Phe Ile Pro Glu Thr
 195 200 205
 Ser Glu Gln Cys Met Leu Asp Pro Leu Ser Ser Ala Glu Asn Ser Leu
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 Ser Gly Ser Cys Gln Ser Leu Asp Arg Ser Ala Asp Ser Pro Ser Phe
 225 230 235 240
 Arg Lys Ser Arg Met Ser Arg Ala Gln Ser Phe Pro Asp Asn Arg Gln
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 Glu Tyr Ser Asp Arg Glu Thr Gln Leu Tyr Asp Lys Gly Val Lys Gly
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 Ser Asp Gly Arg Arg Thr Phe Pro Arg Ile Arg Arg His Gln Gly Asn
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 Leu Phe Thr Leu Val Pro Ser Ser Arg Ser Leu Ser Thr Asn Gly Glu
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 Ser Ala Asp Ser Glu Asn Ala Leu Ser Val Gln Glu Arg Asn Val Pro
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 Gly Gln Gly Ala Phe Gly Arg Val Tyr Leu Cys Tyr Asp Val Asp Thr
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 Gly Arg Glu Leu Ala Ser Lys Gln Val Gln Phe Asp Pro Asp Ser Pro
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 Asp Arg Ala Glu Lys Thr Leu Thr Ile Phe Met Glu Tyr Met Pro Gly
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 Arg Asp Ser Ala Gly Asn Val Lys Leu Gly Asp Phe Gly Ala Ser Lys
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 Gly Thr Pro Tyr Trp Met Ser Pro Glu Val Ile Ser Gly Glu Gly Tyr

| | | |
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| 530 | 535 | 540 |
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| Leu Thr Glu Lys Pro Pro Trp Ala Glu Tyr Glu Ala Met Ala Ala Ile | | |
| | 565 | 570 |
| Phe Lys Ile Ala Thr Gln Pro Thr Asn Pro Gln Leu Pro Ser His Ile | | |
| | 580 | 585 |
| Ser Glu His Gly Arg Asp Phe Leu Arg Arg Ile Phe Val Glu Ala Arg | | |
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<210> 4847

<211> 2804

<212> DNA

<213> Homo sapiens

<400> 4847

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<210> 4848

<211> 242

<212> PRT

<213> Homo sapiens

<400> 4848

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Phe | Ile | Arg | Thr | Leu | Gly | Ile | Glu | Pro | Glu | Lys | Leu | Val | His | His |
| | | | 20 | | | | 25 | | | | | | 30 | | |
| Ile | Leu | Gln | Asp | Met | Tyr | Lys | Thr | Lys | Lys | Lys | Lys | Thr | Arg | Val | Ile |
| | 35 | | | | | 40 | | | | | | 45 | | | |
| Leu | Arg | Met | Leu | Pro | Ile | Ser | Gly | Thr | Cys | Lys | Ala | Phe | Leu | Glu | Asp |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Met | Lys | Lys | Tyr | Ala | Glu | Thr | Phe | Leu | Glu | Pro | Trp | Phe | Lys | Ala | Pro |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Asn | Lys | Gly | Thr | Phe | Gln | Ile | Val | Tyr | Lys | Ser | Arg | Asn | Asn | Ser | His |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Val | Asn | Arg | Glu | Glu | Val | Ile | Arg | Glu | Leu | Ala | Gly | Ile | Val | Cys | Thr |
| | | 100 | | | | | 105 | | | | | | 110 | | |
| Leu | Asn | Ser | Glu | Asn | Lys | Val | Asp | Leu | Thr | Asn | Pro | Gln | Tyr | Thr | Val |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Val | Val | Glu | Ile | Ile | Lys | Ala | Val | Cys | Cys | Leu | Ser | Val | Val | Lys | Asp |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Tyr | Met | Leu | Phe | Arg | Lys | Tyr | Asn | Leu | Gln | Glu | Val | Val | Lys | Ser | Pro |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Lys | Asp | Pro | Ser | Gln | Leu | Asn | Ser | Lys | Gln | Gly | Asn | Gly | Lys | Glu | Ala |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Lys | Leu | Glu | Ser | Ala | Asp | Lys | Ser | Asp | Gln | Asn | Asn | Thr | Ala | Glu | Gly |
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| Lys | Asn | Asn | Gln | Gln | Val | Pro | Glu | Asn | Thr | Glu | Glu | Leu | Gly | Gln | Thr |
| | 195 | | | | | 200 | | | | | 205 | | | | |
| Lys | Pro | Thr | Ser | Asn | Pro | Gln | Val | Val | Asn | Glu | Gly | Gly | Ala | Lys | Pro |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Glu | Leu | Ala | Ser | Gln | Ala | Thr | Glu | Gly | Ser | Lys | Ser | Asn | Glu | Asn | Asp |
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<211> 321

<212> DNA

<213> Homo sapiens

<400> 4849

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<210> 4850

<211> 90

<212> PRT

<213> Homo sapiens

<400> 4850

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Leu | Leu | Lys | Lys | His | Thr | Glu | Asp | Ile | Ser | Ser | Val | Tyr | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ile | Arg | Glu | Arg | Leu | Gly | Ser | Gly | Ala | Phe | Ser | Glu | Val | Val | Leu | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Glu | Arg | Gly | Ser | Ala | His | Leu | Val | Ala | Leu | Lys | Cys | Ile | Pro | Lys |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Lys | Ala | Leu | Arg | Gly | Lys | Glu | Ala | Leu | Val | Glu | Asn | Glu | Ile | Ala | Val |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Leu | Arg | Arg | Ile | Ser | His | Pro | Asn | Ile | Val | Ala | Leu | Glu | Asp | Val | His |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Glu | Ser | Pro | Ser | His | Leu | Tyr | Leu | Ala | Met | | | | | | |
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<210> 4851

<211> 820

<212> DNA

<213> Homo sapiens

<400> 4851

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 420
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 480
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 660
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 720
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<210> 4852

<211> 207

<212> PRT

<213> Homo sapiens

<400> 4852

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| Met | Ser | Cys | Thr | Ile | Glu | Lys | Ile | Leu | Thr | Asp | Ala | Lys | Thr | Leu | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Glu | Arg | Leu | Arg | Glu | His | Asp | Ala | Ala | Ala | Glu | Ser | Leu | Val | Asp | Gln |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Ser | Ala | Ala | Leu | His | Arg | Arg | Val | Ala | Ala | Met | Arg | Glu | Ala | Gly | Thr |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Leu | Pro | Asp | Gln | Tyr | Gln | Glu | Asp | Ala | Ser | Asp | Met | Lys | Asp | Met |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Ser | Lys | Tyr | Lys | Pro | His | Ile | Leu | Leu | Ser | Gln | Glu | Asn | Thr | Gln | Ile |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Arg | Asp | Leu | Gln | Gln | Glu | Asn | Arg | Glu | Leu | Trp | Ile | Ser | Leu | Glu | Glu |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| His | Gln | Asp | Ala | Leu | Glu | Leu | Ile | Met | Ser | Lys | Tyr | Arg | Lys | Gln | Met |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Leu | Gln | Leu | Met | Val | Ala | Lys | Lys | Ala | Val | Asp | Ala | Glu | Pro | Val | Leu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Lys | Ala | His | Gln | Ser | His | Ser | Ala | Glu | Ile | Glu | Ser | Gln | Ile | Asp | Arg |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ile | Cys | Glu | Met | Gly | Glu | Val | Met | Arg | Lys | Ala | Val | Gln | Val | Asp | Asp |
| 145 | | | | 150 | | | | | 155 | | | | | 160 | |
| Asp | Gln | Phe | Cys | Lys | Ile | Gln | Glu | Lys | Leu | Ala | Gln | Leu | Glu | Leu | Glu |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Asn | Lys | Glu | Leu | Arg | Glu | Leu | Leu | Ser | Ile | Ser | Ser | Glu | Ser | Leu | Gln |
| | | 180 | | | | | 185 | | | | | | 190 | | |
| Ala | Arg | Lys | Glu | Asn | Ser | Met | Asp | Thr | Ala | Ser | Gln | Ala | Ile | Lys | |
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<210> 4853

<211> 1467

<212> DNA

<213> Homo sapiens

<400> 4853

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gttttgcaca ccccgctttc cagcgcggag tcgggcgggg gtagggcggc gtcgcgtgcg
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<210> 4854

<211> 311

<212> PRT

<213> Homo sapiens

<400> 4854

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| | 20 | 25 | 30 |
| Glu Asn Pro | Glu Gln Val Ala Ser | Glu Leu Pro Glu | Pro Val Leu |
| | 35 | 40 | 45 |
| Arg Lys Val | Glu Leu Pro Val | Pro Thr His Arg | Arg Pro Val Gln Ala |
| | 50 | 55 | 60 |
| Trp Val Glu | Ser Leu Arg Gly | Phe Glu Gln Glu | Arg Val Gly Leu Ala |
| | 65 | 70 | 75 |
| Asp Leu His | Pro Asp Val Phe | Ala Thr Ala Pro | Arg Leu Asp Ile Leu |
| | 85 | 90 | 95 |
| His Gln Val | Ala Met Trp Gln | Lys Asn Phe Lys | Arg Ile Ser Tyr Ala |
| | 100 | 105 | 110 |
| Lys Thr Lys | Thr Arg Ala Glu | Val Arg Gly Gly | Gly Arg Lys Pro Xaa |
| | 115 | 120 | 125 |
| Ala Ala Glu | Arg His Trp Ala | Gly Pro Ala Trp | Gln His Pro Leu Ser |
| | 130 | 135 | 140 |
| Ala Leu Ala | Arg Arg Arg Cys | Cys Pro Trp Pro | Pro Gly Pro Thr Ser |
| | 145 | 150 | 155 |
| Tyr Tyr Tyr | Met Leu Pro Met | Lys Val Arg Ala | Leu Gly Leu Lys Val |
| | 165 | 170 | 175 |
| Ala Leu Thr | Val Lys Leu Ala | Gln Asp Asp Leu | His Ile Met Asp Ser |
| | 180 | 185 | 190 |
| Leu Glu Leu | Pro Thr Gly Asp | Pro Gln Tyr Leu | Thr Glu Leu Ala His |
| | 195 | 200 | 205 |
| Tyr Arg Arg | Trp Gly Asp Ser | Val Leu Leu Val | Asp Leu Thr His Glu |
| | 210 | 215 | 220 |
| Glu Met Pro | Gln Ser Ile Val | Glu Ala Thr Ser | Arg Leu Lys Thr Phe |
| | 225 | 230 | 235 |
| Asn Leu Ile | Pro Ala Val Gly | Leu Asn Val His | Ser Met Leu Lys His |
| | 245 | 250 | 255 |
| Gln Thr Leu | Val Leu Thr Leu | Pro Thr Val Ala | Phe Leu Glu Asp Lys |
| | 260 | 265 | 270 |
| Leu Leu Trp | Gln Asp Ser Arg | Tyr Arg Pro Leu | Tyr Pro Phe Ser Leu |
| | 275 | 280 | 285 |
| Pro Tyr Ser | Asp Phe Pro Arg | Pro Leu Pro His | Ala Thr Gln Gly Pro |
| | 290 | 295 | 300 |
| Ala Ala Thr | Pro Tyr His Cys | | |
| | 305 | 310 | |

<210> 4855

<211> 750

<212> DNA

<213> Homo sapiens

<400> 4855

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<210> 4856

<211> 237

<212> PRT

<213> Homo sapiens

<400> 4856

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| Met | Ala | Phe | Asn | Phe | Gly | Ala | Pro | Ser | Gly | Thr | Ser | Gly | Thr | Ala | Ala |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | |
| Ala | Thr | Ala | Ala | Pro | Ala | Gly | Gly | Phe | Gly | Gly | Phe | Gly | Thr | Thr | Ser |
| | | 20 | | | | | 25 | | | | | | 30 | | |
| Thr | Thr | Ala | Gly | Ser | Ala | Phe | Ser | Phe | Ser | Ala | Pro | Thr | Asn | Thr | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Thr | Thr | Gly | Leu | Phe | Gly | Gly | Thr | Gln | Asn | Lys | Gly | Phe | Gly | Phe | Gly |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Thr | Gly | Phe | Gly | Thr | Thr | Gly | Thr | Ser | Thr | Gly | Leu | Gly | Thr | Gly | |
| 65 | | | | 70 | | | | 75 | | | | | | 80 | |
| Leu | Gly | Thr | Gly | Leu | Gly | Phe | Gly | Gly | Phe | Asn | Thr | Gln | Gln | Gln | Gln |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Gln | Gln | Thr | Thr | Leu | Gly | Gly | Leu | Phe | Ser | Gln | Pro | Thr | Gln | Ala | Pro |
| | | | 100 | | | | 105 | | | | | | 110 | | |
| Thr | Gln | Ser | Asn | Gln | Leu | Ile | Asn | Thr | Ala | Ser | Ala | Leu | Ser | Ala | Pro |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Thr | Leu | Leu | Gly | Asp | Glu | Arg | Asp | Ala | Ile | Leu | Ala | Lys | Trp | Asn | Gln |
| | | 130 | | | | 135 | | | | | 140 | | | | |
| Leu | Gln | Ala | Phe | Trp | Gly | Thr | Gly | Lys | Gly | Tyr | Phe | Asn | Asn | Asn | Ile |
| 145 | | | | 150 | | | | | | 155 | | | | | 160 |
| Pro | Pro | Val | Glu | Phe | Thr | Gln | Glu | Asn | Pro | Phe | Cys | Arg | Phe | Lys | Ala |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Val | Gly | Tyr | Ser | Cys | Met | Pro | Ser | Asn | Lys | Asp | Glu | Asp | Gly | Leu | Val |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Val | Leu | Val | Phe | Asn | Lys | Lys | Glu | Thr | Glu | Ile | Arg | Ser | Gln | Gln | Gln |
| | | | 195 | | | | 200 | | | | 205 | | | | |
| Gln | Leu | Val | Glu | Ser | Leu | His | Lys | Val | Leu | Gly | Gly | Asn | Gln | Thr | Leu |
| | | 210 | | | | 215 | | | | | 220 | | | | |
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225

230

235

<210> 4857

<211> 2887

<212> DNA

<213> Homo sapiens

<400> 4857

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1380

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<210> 4858

<211> 269

<212> PRT

<213> Homo sapiens

<400> 4858

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           20           25           30
Ile Leu Leu Leu Gln Leu Asp Leu Ile Glu Gln Gln Gln Gln Leu
 35           40           45
Gln Ala Lys Glu Lys Glu Ile Glu Glu Leu Lys Ser Glu Arg Asp Thr
 50           55           60
Leu Leu Ala Arg Ile Glu Arg Met Glu Arg Arg Met Gln Leu Val Lys
65           70           75           80
Lys Asp Asn Glu Lys Glu Arg His Lys Leu Phe Gln Gly Tyr Glu Thr
           85           90           95
Glu Glu Arg Glu Glu Thr Glu Leu Ser Glu Lys Ile Lys Leu Glu Cys
100           105           110
Gln Pro Glu Leu Ser Glu Thr Ser Gln Thr Leu Pro Pro Lys Pro Phe
115           120           125
Ser Cys Gly Arg Ser Gly Lys Gly His Lys Arg Lys Ser Pro Phe Gly
130           135           140
Ser Thr Glu Arg Lys Thr Pro Val Lys Lys Leu Ala Pro Glu Phe Ser
145           150           155
Lys Val Lys Thr Lys Thr Pro Lys His Ser Pro Ile Lys Glu Glu Pro
           165           170           175
Cys Gly Ser Leu Ser Glu Thr Val Cys Lys Arg Glu Leu Arg Ser Gln
180           185           190
Glu Thr Pro Glu Lys Pro Arg Ser Ser Val Asp Thr Pro Pro Arg Leu
195           200           205
Ser Thr Pro Gln Lys Gly Pro Ser Thr His Pro Lys Glu Lys Ala Phe
210           215           220
Ser Ser Glu Ile Glu Asp Leu Pro Tyr Leu Ser Thr Thr Glu Met Tyr
225           230           235           240
Leu Cys Arg Trp His Gln Pro Pro Pro Ser Pro Leu Pro Leu Arg Glu
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Ser Ser Pro Lys Lys Glu Glu Thr Val Ala Ser Lys Ala
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<210> 4859

<211> 689

<212> DNA

<213> Homo sapiens

<400> 4859

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180
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240

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<210> 4860

<211> 173

<212> PRT

<213> Homo sapiens

<400> 4860

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 Arg Val Ser Gly Gly Leu Pro Arg Cys Leu Cys Trp Val Ala Val Val
 35 40 45
 Val Pro Arg Gly Met Glu Cys Pro Gly Leu Leu Gln Glu Leu Ser Thr
 50 55 60
 Gln Gly Gln Gly Glu Pro Arg Glu Lys Arg Pro Gly Leu Leu Ser Phe
 65 70 75 80
 Leu Ile Cys Ser Cys Pro Pro Leu Ser Ser Thr Pro Leu Pro Phe Pro
 85 90 95
 Arg Leu Ser Pro Pro Trp Ala Phe Val Cys Phe Gly Arg Cys His Leu
 100 105 110
 Thr Arg Thr Leu Ile Phe Asn Pro Ile Pro Leu Pro Pro Thr Leu Pro
 115 120 125
 His Phe Asp Leu Ile Leu Trp Leu Trp Ala Glu Ala Ser Gln Gly Ser
 130 135 140
 Trp Val Gly Trp Val Leu Arg Pro Pro Gln Thr Ser Thr Glu Thr Cys
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 Pro Cys Ala Val Cys Thr Leu His Ser Leu Pro Cys Leu
 165 170

<210> 4861

<211> 1622

<212> DNA

<213> Homo sapiens

<400> 4861

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<210> 4862
 <211> 260
 <212> PRT
 <213> Homo sapiens

<400> 4862
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 20 25 30
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 35 40 45
 Leu Thr Arg His Leu Arg Asp Pro Phe Val Lys Ala Ala Lys Val Glu
 50 55 60
 Ser Tyr Arg Cys Arg Ser Ala Phe Lys Leu Leu Glu Val Asn Glu Arg
 65 70 75 80
 His Gln Ile Leu Arg Pro Gly Leu Arg Val Leu Asp Cys Gly Ala Ala
 85 90 95
 Pro Gly Ala Trp Ser Gln Val Ala Val Gln Lys Val Asn Ala Ala Gly
 100 105 110
 Thr Asp Pro Ser Ser Pro Val Gly Phe Val Leu Gly Val Asp Leu Leu
 115 120 125
 His Ile Phe Pro Leu Glu Gly Ala Thr Phe Leu Cys Pro Ala Asp Val
 130 135 140
 Thr Asp Pro Arg Thr Ser Gln Arg Ile Leu Glu Val Leu Pro Gly Arg
 145 150 155 160
 Arg Ala Asp Val Ile Leu Ser Asp Met Ala Pro Asn Ala Thr Gly Phe
 165 170 175
 Arg Asp Leu Asp His Asp Arg Leu Ile Ser Leu Cys Leu Thr Leu Leu
 180 185 190
 Ser Val Thr Pro Asp Ile Leu Gln Pro Gly Gly Thr Phe Leu Cys Lys
 195 200 205
 Thr Trp Ala Gly Ser Gln Ser Arg Arg Leu Gln Arg Arg Leu Thr Glu
 210 215 220
 Glu Phe Gln Asn Val Arg Ile Ile Lys Pro Glu Ala Ser Arg Lys Glu
 225 230 235 240
 Ser Ser Glu Val Tyr Phe Leu Ala Thr Gln Tyr His Gly Arg Lys Gly
 245 250 255
 Thr Val Lys Gln
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<210> 4863
 <211> 355
 <212> DNA
 <213> Homo sapiens

<400> 4863
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 180

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<210> 4864
 <211> 118
 <212> PRT
 <213> Homo sapiens

<400> 4864
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 35 40 45
 Asp Pro Gly His Ala Asp Leu Val Leu Tyr Ile Thr Arg Phe Asp Leu
 50 55 60
 Glu Leu Pro Asp Gly Asn Xaa Ala Val Arg Gly Val Thr Gln Leu Gly
 65 70 75 80
 Gly Ala Cys Ser Pro Thr Trp Ser Cys Leu Ile Thr Glu Asp Thr Gly
 85 90 95
 Phe Asp Leu Gly Val Thr Ile Ala His Glu Ile Gly His Ser Phe Gly
 100 105 110
 Leu Glu His Asp Gly Ala
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<210> 4865
 <211> 444
 <212> DNA
 <213> Homo sapiens

<400> 4865
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<210> 4866

<211> 148

<212> PRT

<213> Homo sapiens

<400> 4866

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Pro Tyr Lys Cys Pro Arg Cys Gly Lys Ala Phe Ala Asp Ser Ser Tyr
  35           40           45
Leu Leu Arg His Gln Arg Thr His Ser Gly Gln Lys Pro Tyr Lys Cys
  50           55           60
Pro His Cys Gly Lys Ala Phe Gly Asp Ser Ser Tyr Leu Leu Arg His
  65           70           75           80
Gln Arg Thr His Ser His Glu Arg Pro Tyr Ser Cys Thr Glu Cys Gly
      85           90           95
Lys Cys Tyr Ser Gln Asn Ser Ser Leu Arg Ser His Gln Arg Val His
      100           105           110
Thr Gly Gln Arg Pro Phe Ser Cys Gly Ile Cys Gly Lys Ser Phe Ser
      115           120           125
Gln Arg Ser Ala Leu Ile Pro His Ala Arg Ser His Ala Arg Glu Lys
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Pro Phe Thr Arg
145

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<210> 4867

<211> 391

<212> DNA

<213> Homo sapiens

<400> 4867

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  180
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  240
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  300
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391

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<210> 4868

<211> 125

<212> PRT

<213> Homo sapiens

<400> 4868

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Met Gly Val Glu Arg Tyr Leu Leu His Pro Ser Gln Leu Leu Arg Ser

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      20             25             30
Gly Leu Lys Met Pro Ile Val Trp Trp Cys Ser Pro Cys Gln Gly Gln
      35             40             45
Glu Thr Glu Ala Ile Pro Ala Val Ser Arg Gln His Pro Leu Gly Leu
      50             55             60
Ser Leu Gly Trp Gly Tyr Pro Gly Met Gly Asp Phe Ser Tyr Gln Asn
      65             70             75             80
Gly Asp Val Glu Lys Glu Ala Asp Val Pro Arg Leu Val Ala Ser Phe
      85             90             95
Cys Pro Ser His Pro Pro Thr Lys Asp Met Arg Leu Leu Pro Ser Asn
      100            105            110
Leu Leu Gly Ala Ser Pro Asp Arg Thr Pro Ser Gly Ile
      115            120            125

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<210> 4869

<211> 418

<212> DNA

<213> Homo sapiens

<400> 4869

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120
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<210> 4870

<211> 125

<212> PRT

<213> Homo sapiens

<400> 4870

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      20             25             30
Leu Gly Arg Gly Leu Trp Pro Pro Gly Ser Cys Arg Gly Ala Arg Gly
      35             40             45
Gly Pro Val Ser Ser Trp Ser Gln Val Gly Pro Ile Arg Cys Asp Pro
      50             55             60
Val Pro Pro Gln Gln Pro Trp Arg Arg Gly Thr Leu Pro Ala Val Ala
      65             70             75             80
Ala Ala Val Phe Leu Ala Cys Glu Arg Arg Gly Gln Ser Gly Arg Trp

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<210> 4872

<211> 90

<212> PRT

<213> Homo sapiens

<400> 4872

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Arg | Lys | Arg | Leu | Gln | Ser | Cys | Trp | Ala | Ala | Pro | Arg | Ser | Val | Gln |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Pro | Leu | Arg | Pro | Cys | Cys | Cys | Ser | Ala | Ala | Trp | Gln | Ser | Pro | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| His | Ala | Pro | Ser | Glu | Ser | Gly | Gly | His | Leu | Pro | Val | Pro | Ala | Ser | Pro |
| | | | 35 | | | | 40 | | | | | | 45 | | |
| Val | Pro | Ala | Pro | Ala | Ala | Ala | Trp | Ser | Val | Ser | Thr | Ala | Ala | Ala | Ala |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Pro | Ala | Ala | Cys | Arg | Pro | Ala | Ala | Gly | Ala | Gly | Pro | Cys | Gln | Gly | His |
| 65 | | | | 70 | | | | | | 75 | | | | 80 | |
| Gln | Gly | Leu | Pro | Gly | Ser | Pro | Leu | Pro | Glu | | | | | | |
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<210> 4873

<211> 948

<212> DNA

<213> Homo sapiens

<400> 4873

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 240
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 420
 gccctggagg ctacttgtaa atccttagaa gaaaagctgg atctggctac gaacaagcag
 480
 cacagcccca tccaggttcc catggtggcc ggctcccctc tcaggacaac ccagatgtgc
 540
 aacaaagtgc gatgtaaga acagaccagg gtgccggggc cttcagggtca cttggggaga
 600
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 660
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 720

cgaacacatg gcacccctgcc aggatgacct gaagtcaccc tcacctttcc ttccacata
 780
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 840
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<210> 4874

<211> 128

<212> PRT

<213> Homo sapiens

<400> 4874

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| Met | Met | Ser | Glu | His | Asp | Leu | Ala | Asp | Val | Val | Gln | Ile | Ala | Val | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asp | Leu | Ser | Pro | Asp | His | Pro | Gly | Thr | Glu | Leu | Trp | Asp | Ser | Val | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Glu | Asn | His | Val | Val | Thr | Asp | Glu | Asp | Glu | Pro | Ala | Leu | Lys | Arg |
| | | 35 | | | | | 40 | | | | 45 | | | | |
| Gln | Arg | Leu | Glu | Ile | Asn | Cys | Gln | Asp | Pro | Ser | Ile | Lys | Ser | Phe | Leu |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Tyr | Ser | Ile | Asn | Gln | Thr | Ile | Cys | Leu | Arg | Leu | Asp | Ser | Ile | Glu | Ala |
| | 65 | | | | 70 | | | | | 75 | | | | 80 | |
| Lys | Leu | Gln | Ala | Leu | Glu | Ala | Thr | Cys | Lys | Ser | Leu | Glu | Glu | Lys | Leu |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Asp | Leu | Val | Thr | Asn | Lys | Gln | His | Ser | Pro | Ile | Gln | Val | Pro | Met | Val |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Ala | Gly | Ser | Pro | Leu | Arg | Thr | Thr | Gln | Met | Cys | Asn | Lys | Val | Arg | Trp |
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<210> 4875

<211> 1255

<212> DNA

<213> Homo sapiens

<400> 4875

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 120
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 180
 aaaatacttt gcagctgggt agaaatatca tacctcctct gtcttcacaa aagcacaaaag
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 360
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 420
 gccccaatgc tgttcattgag gtggagaagt ggctgccccg gctgcatgct cttgtcgtag
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gacctggcctt gggtagagat gatcgctccac ccagttcttg acagcccaaa tgctgttcat
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<210> 4876

<211> 230

<212> PRT

<213> Homo sapiens

<400> 4876

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Ala | Trp | Val | Glu | Met | Ile | Val | His | Pro | Val | Leu | Asp | Ser | Pro | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Val | His | Glu | Val | Glu | Lys | Trp | Leu | Pro | Arg | Leu | His | Ala | Leu | Val |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Gly | Thr | Gly | Leu | Gly | Arg | Asp | Asp | Ala | Leu | Leu | Arg | Asn | Val | Gln |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Ile | Leu | Glu | Val | Ser | Lys | Ala | Arg | Asp | Ile | Pro | Val | Val | Ile | Asp |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Ala | Asp | Gly | Leu | Trp | Leu | Val | Ala | Gln | Gln | Pro | Ala | Leu | Ile | His | Gly |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Tyr | Arg | Lys | Ala | Val | Leu | Thr | Pro | Asn | His | Val | Glu | Phe | Ser | Arg | Leu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Tyr | Asp | Ala | Val | Leu | Arg | Gly | Pro | Met | Asp | Ser | Asp | Asp | Ser | His | Gly |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Ser | Val | Leu | Arg | Leu | Ser | Gln | Ala | Leu | Gly | Asn | Val | Thr | Val | Val | Gln |
| | | | 115 | | | | | 120 | | | | 125 | | | |
| Lys | Gly | Glu | Arg | Asp | Ile | Leu | Ser | Asn | Gly | Gln | Gln | Val | Leu | Val | Cys |
| | | 130 | | | | 135 | | | | | | 140 | | | |
| Ser | Gln | Glu | Gly | Ser | Ser | Arg | Arg | Cys | Gly | Gly | Gln | Gly | Asp | Leu | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Ser | Gly | Ser | Leu | Gly | Val | Leu | Val | His | Trp | Ala | Leu | Leu | Ala | Gly | Pro |

| | | | | | |
|---------------------------------|---------------------------------|-------------------------|---------|--|-----|
| | 165 | | 170 | | 175 |
| Gln Lys Thr | Asn Gly Ser Ser Pro | Leu Leu Val Ala Ala Phe | Gly Ala | | |
| | 180 | | 185 | | 190 |
| Cys Ser Leu Thr Arg Gln Cys | Asn His Gln Ala Phe | Gln Lys His Gly | | | |
| | 195 | | 200 | | 205 |
| Arg Ser Thr Thr Thr Ser Asp Met | Ile Ala Glu Val Gly Ala Ala Phe | | | | |
| | 210 | | 215 | | 220 |
| Ser Lys Leu Phe Glu Thr | | | | | |
| 225 | 230 | | | | |

<210> 4877

<211> 1182

<212> DNA

<213> Homo sapiens

<400> 4877

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1140

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<210> 4878

<211> 122

<212> PRT

<213> Homo sapiens

<400> 4878

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          20          25          30
Leu Arg Asp Glu Ser Val Ala His Gly Arg Ile Asp Asn Val Asp Ala
          35          40          45
Phe Met Asn Ile Arg Leu Ala Lys Val Thr Tyr Thr Asp Arg Trp Gly
          50          55          60
His Gln Val Lys Leu Asp Asp Leu Phe Val Thr Gly Arg Asn Val Arg
65          70          75          80
Tyr Val His Ile Pro Asp Asp Val Asn Ile Thr Ser Thr Ile Glu Gln
          85          90          95
Gln Leu Gln Ile Ile His Arg Val Arg Asn Phe Gly Gly Lys Gly Gln
          100         105         110
Gly Arg Trp Glu Phe Pro Pro Lys Lys Leu
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<210> 4879

<211> 1941

<212> DNA

<213> Homo sapiens

<400> 4879

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660
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1740
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1800
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1860
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1920
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<210> 4880

<211> 202

<212> PRT

<213> Homo sapiens

<400> 4880

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His Lys Pro Gly Leu Gly Lys Cys Pro Asp Leu Pro Gly Gly His Thr

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[illegible]

<210> 4881

<211> 1333

<212> DNA

<213> Homo sapiens

<400> 4881

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| 60 | ggggtagaga | acagggtcac | ctctccactc | ccgcccctcc | catttctccc |
| 120 | ctagggtttg | gatacatgac | gcagcaactg | atgaacctgg | caggaggcgc |
| 180 | gccttggagg | gtggccatga | cctcacagcc | atctgtgagc | cctctgaggc |
| 240 | gctcttctgg | gtaacagggt | gagccgtctc | cctcccccac | ccatgcttct |
| 300 | taagcccgcc | ttccaggact | acccaaggaa | caggcagatg | ggatgggaca |
| 360 | ggccaagcct | gaaacaaggt | aggcgaagcg | aaagcctctg | ttccaagtta |
| 420 | gcattctcct | gcctaggtag | agtgtgcttg | tggctagaag | gctggggccc |
| 480 | agtgagctgg | gcctgtgggt | ccctgaaaga | ctggtggctg | atgtactgtt |
| 540 | ggatccggtt | tgaggaagaa | gctggaaaca | gaaacccaac | ctcaatgcca |
| 600 | ggaggccgctg | atccgggtgc | acagtaagtg | tggagatggg | acactcgctg |
| 660 | gaaggatctt | ggtggtaccc | tgccccacgg | tggccagatc | ctagggcttc |
| 720 | | | | | cggtgccagc |

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<210> 4882

<211> 100

<212> PRT

<213> Homo sapiens

<400> 4882

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 35 40 45
 Gln Leu Met Asn Leu Ala Gly Gly Ala Val Val Leu Ala Leu Glu Gly
 50 55 60
 Gly His Asp Leu Thr Ala Ile Cys Asp Ala Ser Glu Ala Cys Val Ala
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<210> 4883

<211> 1371

<212> DNA

<213> Homo sapiens

<400> 4883

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 1140
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<210> 4884<211> 410

<212> PRT

<213> Homo sapiens

<400> 4884

Thr Ala Gly Phe Ile Trp Leu Phe Lys His His Arg Phe Leu Lys Lys
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 20 25 30
 Leu Arg Leu Leu Asn Phe Gln His Asn Phe Ile Thr Arg Ile Gln Asn
 35 40 45

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Ile Ser Asn Leu Gln Lys Leu Ile Ser Leu Asp Leu Tyr Asp Asn Gln
 50          55          60
Ile Glu Glu Ile Ser Gly Leu Ser Thr Leu Arg Cys Leu Arg Val Leu
65          70          75          80
Leu Leu Gly Lys Asn Arg Ile Lys Lys Ile Ser Asn Leu Glu Asn Leu
      85          90          95
Lys Ser Leu Asp Val Leu Asp Leu His Gly Asn Gln Ile Thr Lys Ile
      100          105          110
Glu Asn Ile Asn His Leu Cys Glu Leu Arg Val Leu Asn Leu Ala Arg
      115          120          125
Asn Phe Leu Ser His Val Asp Asn Leu Asn Gly Leu Asp Ser Leu Thr
      130          135          140
Glu Leu Asn Leu Arg His Asn Gln Ile Thr Phe Val Arg Asp Val Asp
      145          150          155          160
Asn Leu Pro Cys Leu Gln His Leu Phe Leu Ser Phe Asn Asn Ile Ser
      165          170          175
Ser Phe Asp Ser Val Ser Cys Leu Ala Asp Ser Ser Ser Leu Ser Asp
      180          185          190
Ile Thr Phe Asp Gly Asn Pro Ile Ala Gln Glu Ser Trp Tyr Lys His
      195          200          205
Thr Val Leu Gln Asn Met Met Gln Leu Arg Gln Leu Asp Met Lys Arg
      210          215          220
Ile Thr Glu Glu Glu Arg Arg Met Ala Ser Val Leu Ala Lys Lys Glu
      225          230          235          240
Glu Glu Lys Lys Arg Glu Ser His Lys Gln Ser Leu Leu Lys Glu Lys
      245          250          255
Lys Arg Leu Thr Ile Asn Asn Val Ala Arg Gln Trp Asp Leu Gln Gln
      260          265          270
Arg Val Ala Asn Ile Ala Thr Asn Glu Asp Arg Lys Asp Ser Asp Ser
      275          280          285
Pro Gln Asp Pro Cys Gln Ile Asp Gly Ser Thr Leu Ser Ala Phe Pro
      290          295          300
Glu Glu Thr Gly Pro Leu Asp Ser Gly Leu Asn Asn Ala Leu Gln Gly
      305          310          315          320
Leu Ser Val Ile Asp Thr Tyr Leu Val Glu Val Asp Gly Asp Thr Leu
      325          330          335
Ser Leu Tyr Gly Ser Gly Ala Leu Glu Ser Leu Asp Arg Asn Trp Ser
      340          345          350
Val Gln Thr Ala Gly Met Ile Thr Thr Val Ser Phe Thr Phe Ile Glu
      355          360          365
Phe Asp Glu Ile Val Gln Val Leu Pro Lys Leu Lys Ile Lys Phe Pro
      370          375          380
Asn Ser Leu His Leu Lys Phe Lys Glu Thr Asn Leu Val Met Gln Gln
      385          390          395          400
Phe Asn Ala Leu Ala Gln Leu Arg Arg Tyr
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<210> 4885

<211> 489

<212> DNA

<213> Homo sapiens

<400> 4885

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 120
 agagaaactgg accttgctca gagagtcttg tacagggatg taatgctgga gaactatagg
 180
 aacctggtct ccttggtagg atttccattt tccaaacctg gtatcatctc ctagtggaa
 240
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 300
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 360
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<210> 4886

<211> 77

<212> PRT

<213> Homo sapiens

<400> 4886

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Lys | Lys | Glu | Asn | Met | Ala | Ala | Leu | Cys | Arg | Thr | Ala | Glu | Ser | Gln |
| 1 | | | | 5 | | | | | 10 | | | | 15 | | |
| Asn | Pro | Met | Gln | Val | Phe | Gln | Gly | Phe | Met | Ser | Phe | Lys | Asp | Val | Ala |
| | | | 20 | | | | 25 | | | | | | 30 | | |
| Val | Asn | Phe | Thr | Arg | Xaa | Glu | Trp | Arg | Glu | Leu | Asp | Leu | Ala | Gln | Arg |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Val | Leu | Tyr | Arg | Asp | Val | Met | Leu | Glu | Asn | Tyr | Arg | Asn | Leu | Val | Ser |
| | | | 50 | | | 55 | | | | | | 60 | | | |
| Leu | Val | Gly | Phe | Pro | Phe | Ser | Lys | Pro | Gly | Ile | Ile | Ser | | | |
| 65 | | | | | 70 | | | | | 75 | | | | | |

<210> 4887

<211> 2271

<212> DNA

<213> Homo sapiens

<400> 4887

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 acttcactgt agtttattat ccttgaccct ccacaatgtg attaccaacc gctaggatga
 180
 gttgcatctt attataagt agcaaattac aagattgtaa cattagactt ttttaagaaa
 240
 tccagtcagc ttttactata atccatctta atttctaggT tactcagaat tccaggattt
 300
 ctgatttTga ctcacatctc gtattgtatt gcctgtattt aactaggaag ttactgcca
 360

cagcatctat ctctattaaa tgtagaggaa ttgacaaaag aggggaaaga aagttgttag
420
gtaatagaac tgcttcagaa atagggtctat tcatgtttga agtgtttctc cttegttttt
480
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gccatcttgc ttgtgtccaa caatacatctt agaagagatc caacagcaag gacttcacag
660
tcacaagaac cttttctgca gttaaattct cataccacca atcctgagca aacccttctt
720
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1860
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1920
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1980

ccaaagaata ggtaacatg aaaacccagt aagactttcc atcttggcag ccatcctttt
 2040
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 2100
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 2160
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<210> 4888

<211> 429

<212> PRT

<213> Homo sapiens

<400> 4888

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 20 25 30
 Ser Ala His Tyr His Val Asn Phe Ser Gln Ala Ile Ser Gln Asp Val
 35 40 45
 Asn Leu His Glu Ala Ile Leu Leu Cys Pro Asn Asn Thr Phe Arg Arg
 50 55 60
 Asp Pro Thr Ala Arg Thr Ser Gln Ser Gln Glu Pro Phe Leu Gln Leu
 65 70 75 80
 Asn Ser His Thr Thr Asn Pro Glu Gln Thr Leu Pro Gly Thr Asn Leu
 85 90 95
 Thr Gly Phe Leu Ser Pro Val Asp Asn His Met Arg Asn Leu Thr Ser
 100 105 110
 Gln Asp Leu Leu Tyr Asp Leu Asp Ile Asn Ile Phe Asp Glu Ile Asn
 115 120 125
 Leu Met Ser Leu Ala Thr Glu Asp Asn Phe Asp Pro Ile Asp Val Ser
 130 135 140
 Gln Leu Phe Asp Glu Pro Asp Ser Asp Ser Gly Leu Ser Leu Asp Ser
 145 150 155 160
 Ser His Asn Asn Thr Ser Val Ile Lys Ser Asn Ser Ser His Ser Val
 165 170 175
 Cys Asp Glu Gly Ala Ile Gly Tyr Cys Thr Asp His Glu Ser Ser Ser
 180 185 190
 His His Asp Leu Glu Gly Ala Val Gly Gly Tyr Tyr Pro Glu Pro Ser
 195 200 205
 Lys Leu Cys His Leu Asp Gln Ser Asp Ser Asp Phe His Gly Asp Leu
 210 215 220
 Thr Phe Gln His Val Phe His Asn His Thr Tyr His Leu Gln Pro Thr
 225 230 235 240
 Ala Pro Glu Ser Thr Ser Asp Xaa Phe Pro Xaa Ala Gly Lys Ser Gln
 245 250 255
 Lys Ile Arg Ser Arg Tyr Leu Glu Asp Pro Asp Arg Thr Leu Ser Arg
 260 265 270
 Asp Asp Gln Arg Ala Lys Ala Leu His Ile Pro Phe Ser Val Asp Glu
 275 280 285
 Ile Val Gly Met Pro Val Asp Ser Phe Asn Ser Met Leu Ser Arg Tyr

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      290              295              300
Tyr Leu Thr Asp Leu Gln Val Ser Leu Ile Arg Asp Ile Arg Arg Arg
305              310              315              320
Gly Lys Asn Lys Val Ala Ala Gln Asn Cys Arg Lys Arg Lys Leu Asp
      325              330              335
Ile Ile Leu Asn Leu Glu Asp Asp Val Cys Asn Leu Gln Ala Lys Lys
      340              345              350
Glu Thr Leu Lys Arg Glu Gln Ala Gln Cys Asn Lys Ala Ile Asn Ile
      355              360              365
Met Lys Gln Lys Leu His Asp Leu Tyr His Asp Ile Phe Ser Arg Leu
      370              375              380
Arg Asp Asp Gln Gly Arg Pro Val Asn Pro Asn His Tyr Ala Leu Gln
385              390              395              400
Cys Thr His Asp Gly Ser Ile Leu Ile Val Pro Lys Glu Leu Val Ala
      405              410              415
Ser Gly His Lys Lys Glu Thr Gln Lys Gly Lys Arg Lys
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<210> 4889

<211> 619

<212> DNA

<213> Homo sapiens

<400> 4889

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360
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420
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480
aacatctccc ggccctcacc gacccttttt ccagattcac aacaaactga tgtgggctct
540
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600
tgcacccatg ctatgtaca
619

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<210> 4890

<211> 90

<212> PRT

<213> Homo sapiens

<400> 4890

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Leu Trp Gln Arg Glu Pro Gly Leu Gly Ser Ile Arg Glu Trp Leu Gln

```

| | | | |
|---|----|----|----|
| 1 | 5 | 10 | 15 |
| His Thr Pro Pro Asn Gly Ile Arg Asp Trp Ala Lys Gln Arg Met Trp | 20 | 25 | 30 |
| Arg Thr Gly Gln Pro Gln Pro Ala Pro Thr Arg Val Asn Ile Ser Arg | 35 | 40 | 45 |
| Pro Ser Pro Thr Leu Phe Pro Asp Ser Gln Gln Thr Asp Val Gly Ser | 50 | 55 | 60 |
| Arg Thr Asp Pro Phe Thr His Thr His Ser His Ser Phe Ala | 65 | 70 | 75 |
| His Ile His Ser Cys Thr His Ala Met Tyr | 80 | 85 | 90 |

<210> 4891

<211> 1998

<212> DNA

<213> Homo sapiens

<400> 4891

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 1860
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<210> 4892

<211> 216

<212> PRT

<213> Homo sapiens

<400> 4892

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 20 25 30
 Ile Lys Arg Gly Arg Gln Ala Glu Glu Glu Cys Ala His Arg Gly Ser
 35 40 45
 Pro Leu Pro Lys Lys Arg Lys Gly Arg Pro Pro Gly His Ile Leu Ser
 50 55 60
 Ser Asp Arg Ala Ala Ala Gly Met Val Trp Lys Pro Lys Ser Cys Glu
 65 70 75 80
 Pro Ile Arg Arg Glu Gly Pro Lys Trp Asp Pro Ala Arg Leu Asn Glu
 85 90 95
 Ser Thr Thr Phe Val Leu Gly Ser Arg Ala Asn Lys Ala Leu Gly Met
 100 105 110
 Gly Gly Thr Arg Gly Arg Ile Tyr Ile Lys His Pro His Leu Phe Lys

| | | |
|---|-----|-----|
| 115 | 120 | 125 |
| Tyr Ala Ala Asp Pro Gln Asp Lys His Trp Leu Ala Glu Gln His His | | |
| 130 | 135 | 140 |
| Met Arg Ala Thr Gly Gly Lys Met Ala Tyr Leu Leu Ile Glu Glu Asp | | |
| 145 | 150 | 155 |
| Ile Arg Asp Leu Ala Ala Ser Asp Asp Tyr Arg Gly Cys Leu Asp Leu | | |
| 165 | 170 | 175 |
| Lys Leu Glu Glu Leu Lys Ser Phe Val Leu Pro Ser Trp Met Val Glu | | |
| 180 | 185 | 190 |
| Lys Met Arg Lys Tyr Met Glu Thr Leu Arg Thr Glu Asn Glu His Arg | | |
| 195 | 200 | 205 |
| Ala Val Glu Ala Pro Pro Gln Thr | | |
| 210 | 215 | |

<210> 4893

<211> 5212

<212> DNA

<213> Homo sapiens

<400> 4893

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1020

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<210> 4894

<211> 399

<212> PRT

<213> Homo sapiens

<400> 4894

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| Met | Asp | Met | Phe | Ser | Leu | Asp | Met | Ile | Ile | Ser | Asp | Pro | Ala | Ala | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Ser | Arg | Ala | Gly | Lys | Lys | Gln | Leu | Arg | Gly | Val | Gln | Asn | Pro | Cys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Pro | Ser | Ala | Arg | Ala | Arg | Pro | Arg | His | Lys | Ser | Leu | Asn | Ile | Lys | Asp |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Lys | Ile | Ser | Glu | Trp | Glu | Gly | Lys | Lys | Glu | Val | Pro | Thr | Pro | Ala | Pro |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Ser | Arg | Arg | Ala | Asp | Gly | Gln | Glu | Asp | Tyr | Leu | Pro | Ser | Ser | Thr | Val |
| | | | 65 | | 70 | | | | 75 | | | | | 80 | |
| Glu | Arg | Arg | Ser | Ser | Asp | Gly | Val | Arg | Thr | Gln | Val | Thr | Glu | Ala | Lys |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Asn | Gly | Met | Arg | Pro | Gly | Thr | Glu | Ser | Thr | Glu | Lys | Glu | Arg | Asn | Lys |
| | | | 100 | | | | 105 | | | | | 110 | | | |
| Gly | Ala | Val | Asn | Val | Gly | Gly | Gln | Asp | Pro | Glu | Pro | Gly | Gln | Asp | Leu |

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    130              135              140
Pro  Arg  Leu  Gly  Lys  Leu  Arg  Phe  Gln  Asn  Asp  His  Leu  Ser  Val  Leu
    145              150              155
Lys  Gln  Val  Lys  Lys  Leu  Glu  Gln  Ala  Leu  Lys  Asp  Gly  Ser  Ala  Gly
    165              170              175
Leu  Asp  Pro  Gln  Leu  Pro  Gly  Thr  Cys  Tyr  Ser  Pro  His  Cys  Pro  Pro
    180              185              190
Asp  Lys  Ala  Glu  Ala  Gly  Ser  Thr  Leu  Pro  Glu  Asn  Leu  Gly  Gly  Gly
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Ser  Gly  Ser  Glu  Val  Ser  Gln  Arg  Val  His  Pro  Ser  Asp  Leu  Glu  Gly
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    225              230              235
Arg  Pro  Trp  Asp  Arg  Ser  Leu  Glu  Asn  Val  Tyr  Arg  Gly  Ser  Glu  Gly
    245              250              255
Ser  Pro  Thr  Lys  Pro  Phe  Ile  Asn  Pro  Leu  Pro  Lys  Pro  Arg  Arg  Thr
    260              265              270
Phe  Lys  His  Ala  Gly  Glu  Gly  Asp  Lys  Asp  Gly  Lys  Pro  Gly  Ile  Gly
    275              280              285
Phe  Arg  Lys  Glu  Lys  Arg  Asn  Leu  Pro  Pro  Leu  Pro  Ser  Leu  Pro  Pro
    290              295              300
Pro  Pro  Leu  Pro  Ser  Ser  Pro  Pro  Pro  Ser  Ser  Val  Asn  Arg  Arg  Leu
    305              310              315
Trp  Thr  Gly  Arg  Gln  Lys  Ser  Ser  Ala  Asp  His  Arg  Lys  Ser  Tyr  Glu
    325              330              335
Phe  Glu  Asp  Leu  Leu  Gln  Ser  Ser  Ser  Glu  Ser  Ser  Arg  Val  Asp  Trp
    340              345              350
Tyr  Ala  Gln  Thr  Lys  Leu  Gly  Leu  Thr  Arg  Thr  Leu  Ser  Glu  Glu  Asn
    355              360              365
Val  Tyr  Glu  Asp  Ile  Leu  Asp  Pro  Pro  Met  Lys  Glu  Asn  Pro  Tyr  Glu
    370              375              380
Asp  Ile  Glu  Leu  His  Gly  Arg  Cys  Leu  Gly  Lys  Lys  Xaa  Val  Ser
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<210> 4895

<211> 1087

<212> DNA

<213> Homo sapiens

<400> 4895

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120
catcctgatt cagcaagtga gaaaaatcca gttactactt taaaggaatt gtcagtgata
180
aagtctcgat atcaaaacttt gtatgcccg ctttaaaccag ttgctgttga gcagaaagag
240
agtaagagcc gcattttgtgc tactgtgaaa aagactatga atatgatata aaaactacag
300
aagcaaacag acctggagggt aatgctttca gttgacagct gtcaccactg actaaagaag
360

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agaaaactgc ggcagagcaa ttcaaatttc acatgccaga tttatgaaga aatggacttg
420
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480
aacccttgat gtctagagat tgggggctgg tgaagggggt ttggcttcaa tgactggata
540
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600
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660
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720
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<210> 4896

<211> 109

<212> PRT

<213> Homo sapiens

<400> 4896

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20     25     30
Asn His Pro Asp Ser Ala Ser Glu Lys Asn Pro Val Thr Leu Leu Lys
35     40     45
Glu Leu Ser Val Ile Lys Ser Arg Tyr Gln Thr Leu Tyr Ala Arg Phe
50     55     60
Lys Pro Val Ala Val Glu Gln Lys Glu Ser Lys Ser Arg Ile Cys Ala
65     70     75     80
Thr Val Lys Lys Thr Met Asn Met Ile Gln Lys Leu Gln Lys Gln Thr
85     90     95
Asp Leu Glu Val Met Leu Ser Val Asp Ser Cys His His
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<210> 4897

<211> 1733

<212> DNA

<213> Homo sapiens

<400> 4897

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240
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360
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480
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600
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720
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1620

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<210> 4898
 <211> 92
 <212> PRT
 <213> Homo sapiens

<400> 4898
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 Ser Ser Trp Asp Tyr Arg Arg Pro Pro Arg Cys Pro Ala Asn Phe Cys
 35 40 45
 Ile Phe Ser Lys Asp Arg Val Ser Pro Cys Trp Leu Gly Trp Ser Gln
 50 55 60
 Thr Pro Asp Xaa Thr Arg Leu Gly Leu Pro Lys Cys Trp Asp Tyr Arg
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 Arg Glu Pro Pro Arg Pro Gly Asp Leu Trp Asn Phe
 85 90

<210> 4899
 <211> 444
 <212> DNA
 <213> Homo sapiens

<400> 4899
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 120
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 180
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 240
 ccacagaatc agccagtgc acggcccccac cacagccagg cttggccctg tcagcggcca
 300
 gcatcccgag ggccagggtc cgagtgtcct caccaaggag gctcttggtg tcgctgtgcc
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<210> 4900
 <211> 118
 <212> PRT
 <213> Homo sapiens

<400> 4900
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|---|-----|-----|-----|
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| Ser Lys Pro Gln Gln Leu Trp Arg Arg Val Arg Glu Trp Arg Leu Trp | 20 | 25 | 30 |
| Arg Gln Gln Arg Gly Pro Leu Gly Trp Val Gly Val Leu Leu Asp Ser | 35 | 40 | 45 |
| Gly Gly Gly Glu His Leu Pro Phe Pro Gln Pro Cys Val His Pro Gln | 50 | 55 | 60 |
| Met Leu Leu Ala His Arg Ile Ser Gln Cys His Gly Pro Thr Thr Ala | 65 | 70 | 75 |
| Arg Leu Gly Pro Val Ser Gly Gln His Pro Glu Gly Gln Gly Pro Ser | 85 | 90 | 95 |
| Val Leu Thr Lys Glu Ala Leu Gly Val Ala Val Pro Ala Pro Met Gly | 100 | 105 | 110 |
| Leu Leu Leu Gly Arg Gly | | | |
| 115 | | | |

<210> 4901

<211> 1520

<212> DNA

<213> Homo sapiens

<400> 4901

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960

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<210> 4902

<211> 184

<212> PRT

<213> Homo sapiens

<400> 4902

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 Leu Val Gly Pro Tyr Gln Asn Thr Ile Gly Ala Ala Phe Val Ala Lys
 35 40 45
 Val Met Ser Val Gly Asp Arg Thr Val Thr Leu Gly Ile Trp Asp Thr
 50 55 60
 Ala Gly Ser Glu Arg Tyr Glu Ala Met Ser Arg Ile Tyr Tyr Arg Gly
 65 70 75 80
 Ala Lys Ala Ala Ile Val Cys Tyr Asp Leu Thr Asp Ser Ser Ser Phe
 85 90 95
 Glu Arg Ala Lys Phe Trp Val Lys Glu Leu Arg Ser Leu Glu Glu Gly
 100 105 110
 Cys Gln Ile Tyr Leu Cys Gly Thr Lys Ser Asp Leu Leu Glu Glu Asp
 115 120 125
 Arg Arg Arg Arg Arg Val Asp Phe His Asp Val Gln Asp Tyr Ala Asp
 130 135 140
 Ser Ser Cys Ser Ser Ala Leu Trp Gly Val Gly Val Cys Gly Cys Leu
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 Gly Gly Ser Lys Lys Ile Gly Thr Ala Leu Ala Ala Arg Ala Arg Cys
 165 170 175
 Ser Arg Arg Ser Ser Trp Pro Pro
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<210> 4903

<211> 1064

<212> DNA

<213> Homo sapiens

<400> 4903

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 660
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 720
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 780
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 960
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<210> 4904

<211> 106

<212> PRT

<213> Homo sapiens

<400> 4904

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 20 25 30
 Asn Lys Gln Thr Ala Val Pro Val Gly Gly Leu Ser Arg Lys Lys Val
 35 40 45
 Pro Gln Glu Pro Trp Ala Thr Val Met Glu Lys Arg Leu Gln Glu Ala

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      50              55              60
Gln Leu Tyr Lys Glu Gly Asn Gln Arg Tyr Arg Glu Gly Lys Tyr
65              70              75              80
Arg Asp Ala Val Ser Arg Tyr His Arg Ala Leu Leu Gln Leu Arg Gly
      85              90              95
Leu Asp Pro Xaa Ser Ala Leu Ser Val Thr
      100              105

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<210> 4905
 <211> 615
 <212> DNA
 <213> Homo sapiens

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<400> 4905
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180
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240
acactggagg acctcgacct ctctacaac aacctcgagc agctgccttg ggaggccctg
300
ggccgcctgg gcaacgtcaa caagttgggc ctgcaccaca acctgctggc ttctgtgcc
360
gcggcgcttt ttcccgctt gcacaagctg gcccggttg acatgacctc caaccgctg
420
accacaatcc caccgaccc actcttctcc cgctgcccc tgctgccagc gccccggggc
480
tcgcccgctt ctgcctgggt gctggccttt ggcggaacc ccctgcactg caactgcgag
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600
gctctggggc gccgc
615

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<210> 4906
 <211> 144
 <212> PRT
 <213> Homo sapiens

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<400> 4906
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Cys Ala Glu Thr Leu Glu Asp Leu Asp Leu Ser Tyr Asn Asn Leu Glu
20     25     30
Gln Leu Pro Trp Glu Ala Leu Gly Arg Leu Gly Asn Val Asn Thr Leu
35     40     45
Gly Leu Asp His Asn Leu Leu Ala Ser Val Pro Ala Gly Ala Phe Ser
50     55     60
Arg Leu His Lys Leu Ala Arg Leu Asp Met Thr Ser Asn Arg Leu Thr
65     70     75     80
Thr Ile Pro Pro Asp Pro Leu Phe Ser Arg Leu Pro Leu Leu Ala Arg

```

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 85 | | | | | | 90 | | | | | | 95 | | |
| Pro | Arg | Gly | Ser | Pro | Ala | Ser | Ala | Leu | Val | Leu | Ala | Phe | Gly | Gly | Asn |
| | | | 100 | | | | | | 105 | | | | 110 | | |
| Pro | Leu | His | Cys | Asn | Cys | Glu | Leu | Val | Trp | Leu | Arg | Arg | Leu | Ala | Arg |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Glu | Asp | Asp | Leu | Glu | Ala | Cys | Ala | Ser | Pro | Pro | Ala | Leu | Gly | Gly | Arg |
| | 130 | | | | | 135 | | | | | 140 | | | | |

<210> 4907

<211> 1748

<212> DNA

<213> Homo sapiens

<400> 4907

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120
gtggccagca gctgggccgc tctctctgcg cccaacagct gtatccacag gttgtgaggg
180
gggaacgact gttctgtaac ccctacaacg gagcctggca ggaaggaaat cacctaaaaa
240
agaaactgtc agagagattt aatagtcaca tgttatcatt aggagttggg tactgtgtca
300
cattcatgct tttagctaaa cactttaaga ttcaatatta ctttttttct ctectctgaa
360
atgtgtccgg tgaagatgtc ccactaaggt aagtttgaca tgggtgaagg gagttgaaag
420
gggtaaacgc ggataaagag cagattactt gaccctacat ttaagagaa gacgacgcct
480
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540
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cgtagtcgtg gtcaccggcg ggcgagtcct tgaagagcga ggtggtcagc cgcagtccca
660
cgccgctcag ccgctcagc aagcgagcca gtccagtctc gttggctaag actgcccgtg
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960
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1080
tcacgtcat cgtccctct ccacaggccg ccgctatccg agcctccgcc agacgaggag
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1200

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 1620
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 1680
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 1740
 accgcgcc
 1748

<210> 4908

<211> 55

<212> PRT

<213> Homo sapiens

<400> 4908

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Lys | Thr | Thr | Pro | Ser | Gly | Arg | Thr | Pro | Ser | Arg | Thr | Pro | Pro | Thr |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Pro | Tyr | Pro | Cys | Pro | His | Gly | Asp | Arg | Leu | Leu | Pro | Pro | Ser | Arg | Pro |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Leu | Pro | Ala | Gly | Pro | Ala | Ser | Ala | Phe | Pro | Pro | Ala | Glu | Arg | Ser | Arg |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | His | Arg | Arg | Ala | Ser | Leu | | | | | | | | | |
| 50 | | | | | | 55 | | | | | | | | | |

<210> 4909

<211> 1960

<212> DNA

<213> Homo sapiens

<400> 4909

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 cgcggctccc cgaaccggaa gtggaggtga gctgtcgcgg gcggcgcccc gccttgctca
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 240
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ctgatggaga aggaggagga ggggatgctg tcgcccatcc tggcccacgg ggggggtccgt
420
ttcatgtgga tcaaacacaa caacctgtat ctggttgcca catccaagaa gaacgcgtgc
480
gtgtcgtcgg tcttttcttt cctctataag gtggtgcagg tgttttcga gtacttcaag
540
gagctggagg aggagagcat ccgggacaac tttgttatca tctacgagct gctggacgag
600
ctcatggact tcggcctccc ccagaccacc gacagcaaga tctgcagga gtacatcaact
660
cagcagagca acaagctgga gacgggcaag tcacgggtgc caccactgt caccaacgct
720
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780
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840
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900
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960
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gccaaaggggc agtttaagaa acagtccagt gccaacgggt tggagatata tgtgctgtga
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cccagcgatg ccgactcccc cagattcaag accagtgtgg gcagcgccaa gtatgtgccc
1260
gagagaaacg tcgtgatttg gagtattaag tctttcccg ggggcaagga gtacttgatg
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1380
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1740
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1920
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1960

<210> 4910
 <211> 423
 <212> PRT
 <213> Homo sapiens

<400> 4910

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 20          25          30
Phe Met Pro Ile Leu Met Glu Lys Glu Glu Glu Gly Met Leu Ser Pro
 35          40          45
Ile Leu Ala His Gly Gly Val Arg Phe Met Trp Ile Lys His Asn Asn
 50          55          60
Leu Tyr Leu Val Ala Thr Ser Lys Lys Asn Ala Cys Val Ser Leu Val
 65          70          75          80
Phe Ser Phe Leu Tyr Lys Val Val Gln Val Phe Ser Glu Tyr Phe Lys
 85          90          95
Glu Leu Glu Glu Glu Ser Ile Arg Asp Asn Phe Val Ile Ile Tyr Glu
100          105          110
Leu Leu Asp Glu Leu Met Asp Phe Gly Phe Pro Gln Thr Thr Asp Ser
115          120          125
Lys Ile Leu Gln Glu Tyr Ile Thr Gln Gln Ser Asn Lys Leu Glu Thr
130          135          140
Gly Lys Ser Arg Val Pro Pro Thr Val Thr Asn Ala Val Ser Trp Arg
145          150          155          160
Ser Glu Gly Ile Lys Tyr Lys Lys Asn Glu Val Phe Ile Asp Val Ile
165          170          175
Glu Ser Val Asn Leu Leu Val Asn Ala Asn Gly Ser Val Leu Leu Ser
180          185          190
Glu Ile Val Gly Thr Ile Lys Met Arg Val Phe Leu Ser Gly Met Pro
195          200          205
Glu Leu Arg Leu Gly Leu Asn Asp Lys Val Leu Phe Asp Asn Thr Gly
210          215          220
Arg Gly Lys Ser Lys Ser Val Glu Leu Glu Asp Val Lys Phe His Gln
225          230          235          240
Cys Val Arg Leu Ser Arg Phe Glu Asn Asp Arg Thr Ile Ser Phe Ile
245          250          255
Pro Pro Asp Gly Glu Phe Glu Leu Met Ser Tyr Arg Leu Asn Thr His
260          265          270
Val Lys Pro Leu Ile Trp Ile Glu Ser Val Ile Glu Lys Phe Ser His
275          280          285
Ser Arg Ile Glu Tyr Met Val Lys Ala Lys Gly Gln Phe Lys Lys Gln
290          295          300
Ser Val Ala Asn Gly Val Glu Ile Ser Val Pro Val Pro Ser Asp Ala
305          310          315          320
Asp Ser Pro Arg Phe Lys Thr Ser Val Gly Ser Ala Lys Tyr Val Pro
325          330          335
Glu Arg Asn Val Val Ile Trp Ser Ile Lys Ser Phe Pro Gly Gly Lys
340          345          350
Glu Tyr Leu Met Arg Ala His Phe Gly Leu Pro Ser Val Glu Lys Glu
355          360          365
Glu Val Glu Gly Arg Pro Pro Ile Gly Val Lys Phe Glu Ile Pro Tyr

```

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      370              375              380
Phe Thr Val Ser Gly Ile Gln Val Arg Tyr Met Lys Ile Ile Glu Lys
385              390              395              400
Ser Gly Tyr Gln Ala Leu Pro Trp Val Arg Tyr Ile Thr Gln Ser Gly
      405              410              415
Asp Tyr Gln Leu Arg Thr Ser
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<210> 4911

<211> 1862

<212> DNA

<213> Homo sapiens

<400> 4911

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120
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180
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240
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300
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420
caaatagatg tggacactgt ttttgaagtc gaagatgaga atatggtttt ggcatcttat
480
aaacaagggt actggttgcc tagctataaa ttgaagtctt cctgggccac aggcctccat
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ctctctgtct tgtttgcca tgtggaatgt cttctggtgc tactggacca caatgtaca
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660
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720
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780
tggagagtga cacaagtcaa ccacatgtta ggaaattccc tggatcaatga agtggaacat
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900
aatgtgaaca tgaagaccaa caaccaagat gaggagacgc ccttgcacac ggctgcccac
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1020
aatgcccaca tggagacccc cctggccatc gccgcctact gggccctccg ctttaaggag
1080
caggagtaca gcacggagca ccacctggtc tgcgcgatcg tgccttgacta caaagccgaa
1140
gtcaatgccc gagatgacga ctttaaatct ccctccaca aggcagcctg gaactgtgac
1200

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 1320
 gagactctgt accagctcct gttgaacat ggggctgccc gaatataccc tccacagttc
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 1440
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 1860
 tt
 1862

<210> 4912

<211> 453

<212> PRT

<213> Homo sapiens

<400> 4912

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Gly | Thr | Thr | Ala | Pro | Val | Thr | Lys | Ser | Gly | Ala | Ala | Lys | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Lys | Arg | Asn | Phe | Leu | Glu | Ala | Leu | Lys | Ser | Asn | Asp | Phe | Gly | Lys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Lys | Ala | Ile | Leu | Ile | Gln | Arg | Gln | Ile | Asp | Val | Asp | Thr | Val | Phe |
| | | | 35 | | | 40 | | | | | 45 | | | | |
| Glu | Val | Glu | Asp | Glu | Asn | Met | Val | Leu | Ala | Ser | Tyr | Lys | Gln | Gly | Tyr |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Trp | Leu | Pro | Ser | Tyr | Lys | Leu | Lys | Ser | Ser | Trp | Ala | Thr | Gly | Leu | His |
| | | | | 70 | | | | | | 75 | | | | 80 | |
| Leu | Ser | Val | Leu | Phe | Gly | His | Val | Glu | Cys | Leu | Leu | Val | Leu | Leu | Asp |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| His | Asn | Ala | Thr | Ile | Asn | Cys | Arg | Pro | Asn | Gly | Lys | Thr | Pro | Leu | His |
| | | | 100 | | | | | | 105 | | | | 110 | | |
| Val | Ala | Cys | Glu | Met | Ala | Asn | Val | Asp | Cys | Val | Lys | Ile | Leu | Cys | Asp |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Arg | Gly | Ala | Lys | Leu | Asn | Cys | Tyr | Ser | Leu | Ser | Gly | His | Thr | Ala | Leu |
| | | | 130 | | | 135 | | | | | 140 | | | | |
| His | Phe | Cys | Thr | Thr | Pro | Ser | Ser | Ile | Leu | Cys | Ala | Lys | Gln | Leu | Val |
| | | | | 145 | | 150 | | | | 155 | | | | 160 | |
| Trp | Arg | Val | Thr | Gln | Val | Asn | His | Met | Leu | Gly | Asn | Ser | Leu | Val | Asn |
| | | | | 165 | | | | 170 | | | | | | 175 | |
| Glu | Val | Glu | His | Val | Thr | Gln | Val | Asn | His | Met | Leu | Gly | Asn | Ser | Leu |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 180 | | | | | | | 185 | | | | | 190 | | | | |
| Val | Asn | Glu | Val | Glu | His | Gly | Ala | Asn | Val | Asn | Met | Lys | Thr | Asn | Asn | |
| 195 | | | | | | | 200 | | | | | 205 | | | | |
| Gln | Asp | Glu | Glu | Thr | Pro | Leu | His | Thr | Ala | Ala | His | Phe | Gly | Leu | Ser | |
| 210 | | | | | | | 215 | | | | | 220 | | | | |
| Glu | Leu | Val | Ala | Phe | Tyr | Val | Glu | His | Gly | Ala | Ile | Val | Asp | Ser | Val | |
| 225 | | | | | | | 230 | | | | | 235 | | | | |
| Asn | Ala | His | Met | Glu | Thr | Pro | Leu | Ala | Ile | Ala | Ala | Tyr | Trp | Ala | Leu | |
| 240 | | | | | | | 245 | | | | | 250 | | | | |
| Arg | Phe | Lys | Glu | Gln | Glu | Tyr | Ser | Thr | Glu | His | His | Leu | Val | Cys | Arg | |
| 255 | | | | | | | 260 | | | | | 265 | | | | |
| Met | Leu | Leu | Asp | Tyr | Lys | Ala | Glu | Val | Asn | Ala | Arg | Asp | Asp | Asp | Phe | |
| 270 | | | | | | | 275 | | | | | 280 | | | | |
| Lys | Ser | Pro | Leu | His | Lys | Ala | Ala | Trp | Asn | Cys | Asp | His | Val | Leu | Met | |
| 285 | | | | | | | 290 | | | | | 295 | | | | |
| His | Met | Met | Leu | Glu | Ala | Gly | Ala | Glu | Ala | Asn | Leu | Met | Asp | Ile | Asn | |
| 300 | | | | | | | 305 | | | | | 310 | | | | |
| Gly | Cys | Ala | Ala | Ile | Gln | Tyr | Val | Leu | Lys | Val | Thr | Ser | Val | Arg | Pro | |
| 315 | | | | | | | 320 | | | | | 325 | | | | |
| Ala | Ala | Gln | Pro | Glu | Ile | Cys | Tyr | Gln | Leu | Leu | Leu | Asn | His | Gly | Ala | |
| 330 | | | | | | | 335 | | | | | 340 | | | | |
| Ala | Arg | Ile | Tyr | Pro | Pro | Gln | Phe | His | Lys | Val | Ile | Gln | Ala | Cys | His | |
| 345 | | | | | | | 350 | | | | | 355 | | | | |
| Ser | Cys | Pro | Lys | Ala | Ile | Glu | Val | Val | Asn | Ala | Tyr | Glu | His | Ile | | |
| 360 | | | | | | | 365 | | | | | 370 | | | | |
| Arg | Trp | Asn | Thr | Lys | Trp | Arg | Arg | Ala | Ile | Pro | Asp | Asp | Asp | Leu | Glu | |
| 375 | | | | | | | 380 | | | | | 385 | | | | |
| Val | Asn | Asn | Arg | Phe | Pro | Ser | Asn | Ser | Phe | His | Tyr | Gln | Val | Leu | Pro | |
| 390 | | | | | | | 395 | | | | | 400 | | | | |
| Asp | Cys | Ser | Arg | Ser | Thr | Glu | Asn | Cys | Asn | Lys | Lys | Val | Gly | Phe | Glu | |
| 405 | | | | | | | 410 | | | | | 415 | | | | |
| Asn | Ala | Phe | Lys | Ala | Tyr | Ser | Asn | Ala | Met | Arg | Gln | Arg | Val | Ile | Lys | |
| 420 | | | | | | | 425 | | | | | 430 | | | | |
| Cys | Arg | Phe | Glu | Ser | | | | | | | | | | | | |
| 435 | | | | | | | 440 | | | | | 445 | | | | |
| 450 | | | | | | | | | | | | | | | | |

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780
gagatgtttg ggaacagctc catcaagttt gagctggaca tcgagcccaa ggtgttcaag
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900
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 <212> PRT
 <213> Homo sapiens

<400> 4914
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 Arg Arg Leu Phe Glu Phe Phe Val Leu Leu Lys Ala Leu Phe Val Leu
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Lys Arg His Trp Leu Arg Phe Phe Tyr Leu Tyr His Phe Ala Phe Tyr
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Thr Ser Trp Leu Phe Ile Gln His Ser Met Ile Tyr Phe Phe His His
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Tyr Glu Leu Pro Ala Ile Leu Gln Gln Val Arg Ile Gln Glu Met Leu
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Leu Gln Ala Pro Pro Leu Gly Pro Gly Thr Pro Thr Ala Leu Pro Asp
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Asp Met Asn Asn Asn Ser Gly Ala Pro Ala Thr Ala Pro Asp Ser Ala
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Gly Gln Pro Pro Ala Leu Gly Pro Val Phe Glu Leu Val Ser Lys Glu
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<210> 4915

<211> 1157

<212> DNA

<213> Homo sapiens

<400> 4915

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<210> 4916

<211> 59

<212> PRT

<213> Homo sapiens

<400> 4916

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| 1 | | | 5 | | | | | 10 | | | | | | 15 | |
| Ala | Gly | Ala | Ser | Arg | Lys | Arg | Lys | Glu | Val | Pro | Ser | Arg | Leu | Arg | Thr |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Trp | Gly | Pro | Gly | Gly | Asp | Ala | Pro | Arg | Gly | Ser | Gly | Leu | Lys | Arg | Pro |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Arg | Gly | Pro | Arg | Gly | Pro | Ser | Ala | Ala | Pro | Arg | | | | | |
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<210> 4917

<211> 1544

<212> DNA

<213> Homo sapiens

<400> 4917

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<210> 4918

<211> 347

<212> PRT

<213> Homo sapiens

<400> 4918

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| Met | Gly | Pro | Ala | Ala | Arg | Pro | Ala | Leu | Arg | Ser | Pro | Pro | Pro | Pro | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Pro | Pro | Pro | Ser | Pro | Leu | Leu | Leu | Leu | Pro | Leu | Leu | Pro | Leu | |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Trp | Leu | Gly | Leu | Ala | Gly | Pro | Gly | Ala | Ala | Ala | Asp | Gly | Ser | Glu | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Ala | Gly | Ala | Gly | Arg | Gly | Gly | Ala | Arg | Ala | Val | Arg | Val | Asp | Val |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Arg | Leu | Pro | Arg | Gln | Asp | Ala | Leu | Val | Leu | Glu | Gly | Val | Arg | Ile | Gly |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65 | | 70 | | 75 | | 80 | | | | | | | | | |
| Ser | Glu | Ala | Asp | Pro | Ala | Pro | Leu | Leu | Gly | Gly | Arg | Leu | Leu | Leu | Met |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Asp | Val | Val | Asp | Ala | Glu | Gln | Glu | Ala | Pro | Ala | Asp | Gly | Trp | Ile | Ala |
| | | | 100 | | | | | 105 | | | | | | 110 | |
| Val | Ala | Tyr | Val | Gly | Lys | Glu | Gln | Ala | Ala | Gln | Phe | His | Gln | Gln | Asn |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Lys | Gly | Ser | Gly | Pro | Gln | Ala | Tyr | Pro | Lys | Ala | Leu | Val | Gln | Gln | Met |
| | | | 130 | | | 135 | | | | | 140 | | | | |
| Arg | Arg | Ala | Leu | Phe | Leu | Gly | Ala | Ser | Ala | Leu | Leu | Leu | Leu | Ile | Leu |
| | | | 145 | | 150 | | | | 155 | | | | | 160 | |
| Asn | His | Asn | Val | Val | Arg | Glu | Leu | Asp | Ile | Ser | Gln | Leu | Leu | Leu | Arg |
| | | | 165 | | | | | 170 | | | | | | 175 | |
| Pro | Val | Ile | Val | Leu | His | Tyr | Ser | Ser | Asn | Val | Thr | Lys | Leu | Leu | Asp |
| | | | 180 | | | | 185 | | | | | 190 | | | |
| Ala | Leu | Leu | Gln | Arg | Thr | Gln | Ala | Thr | Ala | Glu | Ile | Thr | Ser | Gly | Glu |
| | | | 195 | | | 200 | | | | | 205 | | | | |
| Ser | Leu | Ser | Ala | Asn | Ile | Glu | Trp | Lys | Leu | Thr | Leu | Trp | Thr | Thr | Cys |
| | | | 210 | | 215 | | | | | | 220 | | | | |
| Gly | Leu | Ser | Lys | Asp | Gly | Tyr | Gly | Gly | Trp | Gln | Asp | Leu | Val | Cys | Leu |
| | | | 225 | | 230 | | | | 235 | | | | | 240 | |
| Gly | Gly | Ser | Arg | Ala | Gln | Glu | Gln | Lys | Pro | Leu | Gln | Gln | Leu | Trp | Asn |
| | | | 245 | | | | 250 | | | | | | 255 | | |
| Ala | Ile | Leu | Leu | Val | Ala | Met | Leu | Leu | Cys | Thr | Gly | Leu | Val | Val | Gln |
| | | | 260 | | | | 265 | | | | | 270 | | | |
| Ala | Gln | Arg | Gln | Ala | Ser | Arg | Gln | Ser | Gln | Arg | Glu | Leu | Gly | Gly | Gln |
| | | | 275 | | | 280 | | | | | 285 | | | | |
| Val | Asp | Leu | Phe | Lys | Arg | Arg | Val | Val | Arg | Arg | Leu | Ala | Ser | Leu | Lys |
| | | | 290 | | 295 | | | | | 300 | | | | | |
| Thr | Arg | Arg | Cys | Arg | Leu | Ser | Arg | Ala | Ala | Gln | Gly | Leu | Pro | Asp | Pro |
| | | | 305 | | 310 | | | | 315 | | | | | 320 | |
| Gly | Ala | Glu | Thr | Cys | Ala | Val | Cys | Leu | Asp | Tyr | Phe | Cys | Asn | Lys | Gln |
| | | | 325 | | | | | 330 | | | | | 335 | | |
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<211> 1362

<212> DNA

<213> Homo sapiens

<400> 4919

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<210> 4920

<211> 194

<212> PRT

<213> Homo sapiens

<400> 4920

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Val | Pro | Ala | Ile | Gln | Gln | Lys | Arg | Thr | Val | Ala | Phe | Leu | Asn | Gln |
| | | | | 20 | | | | 25 | | | | | 30 | | |
| Phe | Val | Val | His | Thr | Val | Gln | Phe | Leu | Asn | Arg | Phe | Ser | Thr | Val | Cys |
| | | | | 35 | | | 40 | | | | | 45 | | | |
| Glu | Glu | Lys | Leu | Ala | Asp | Leu | Ser | Leu | Arg | Ile | Gln | Gln | Ile | Glu | Thr |
| | | | | 50 | | 55 | | | | 60 | | | | | |
| Thr | Leu | Asn | Ile | Leu | Asp | Ala | Lys | Leu | Ser | Ser | Ile | Pro | Gly | Leu | Asp |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Asp | Val | Thr | Val | Glu | Val | Ser | Pro | Leu | Asn | Val | Thr | Ser | Val | Thr | Asn |
| | | | | 85 | | | | 90 | | | | | 95 | | |
| Gly | Ala | His | Pro | Glu | Ala | Thr | Ser | Glu | Gln | Pro | Gln | Gln | Asn | Ser | Thr |

| | | | | | |
|---|-----|--|-----|--|-----|
| | 100 | | 105 | | 110 |
| Gln Asp Ser Gly Leu Gln Glu Ser Glu Val Ser Ala Glu Asn Ile Leu | | | | | |
| | 115 | | 120 | | 125 |
| Thr Val Ala Lys Asp Pro Arg Tyr Ala Arg Tyr Leu Lys Met Val Gln | | | | | |
| | 130 | | 135 | | 140 |
| Val Gly Val Pro Val Met Ala Ile Arg Asn Lys Met Ile Ser Glu Gly | | | | | |
| | 145 | | 150 | | 155 |
| Leu Asp Pro Asp Leu Leu Glu Arg Pro Asp Ala Pro Val Pro Asp Gly | | | | | |
| | 165 | | 170 | | 175 |
| Glu Ser Glu Lys Thr Val Glu Glu Ser Ser Asp Ser Glu Ser Ser Phe | | | | | |
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| Ser Asp | | | | | |

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<211> 1272

<212> DNA

<213> Homo sapiens

<400> 4921

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1020

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<211> 342

<212> PRT

<213> Homo sapiens

<400> 4922

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| Met | Ala | Ala | Glu | Glu | Asp | Glu | Val | Glu | Trp | Val | Val | Glu | Ser | Ile |
| 1 | | | 5 | | | | | 10 | | | | 15 | | |
| Ala | Gly | Leu | Leu | Arg | Gly | Pro | Asp | Trp | Ser | Ile | Pro | Ile | Leu | Asp |
| | | 20 | | | | | 25 | | | | | 30 | | Phe |
| Val | Glu | Gln | Lys | Cys | Glu | Val | Phe | Asp | Asp | Glu | Glu | Glu | Ser | Lys |
| | | 35 | | | | 40 | | | | | 45 | | | Leu |
| Thr | Tyr | Thr | Glu | Ile | His | Gln | Glu | Tyr | Lys | Glu | Leu | Val | Glu | Lys |
| | 50 | | | | 55 | | | | | 60 | | | | Leu |
| Leu | Glu | Gly | Tyr | Leu | Lys | Glu | Ile | Gly | Ile | Asn | Glu | Asp | Gln | Phe |
| 65 | | | | 70 | | | | 75 | | | | | | 80 |
| Glu | Ala | Cys | Thr | Ser | Pro | Leu | Ala | Lys | Thr | His | Thr | Ser | Gln | Ala |
| | | | 85 | | | | | 90 | | | | | 95 | Ile |
| Leu | Gln | Pro | Val | Leu | Ala | Ala | Glu | Asp | Phe | Thr | Ile | Phe | Lys | Ala |
| | | 100 | | | | | 105 | | | | | 110 | | Met |
| Met | Val | Gln | Lys | Asn | Ile | Glu | Met | Gln | Leu | Gln | Ala | Ile | Arg | Ile |
| | | 115 | | | | 120 | | | | | 125 | | | Ile |
| Gln | Glu | Arg | Asn | Gly | Val | Leu | Pro | Asp | Cys | Leu | Thr | Asp | Gly | Ser |
| | 130 | | | 135 | | | | | | 140 | | | | Asp |
| Val | Val | Ser | Asp | Leu | Glu | His | Glu | Glu | Met | Lys | Ile | Leu | Arg | Glu |
| 145 | | | | 150 | | | | 155 | | | | | | Val |
| Leu | Arg | Lys | Ser | Lys | Glu | Glu | Tyr | Asp | Gln | Glu | Glu | Glu | Arg | Lys |
| | | | 165 | | | | | 170 | | | | | 175 | Arg |
| Lys | Lys | Gln | Leu | Ser | Glu | Ala | Lys | Thr | Glu | Glu | Pro | Thr | Val | His |
| | | 180 | | | | | 185 | | | | | 190 | | Ser |
| Ser | Glu | Ala | Ala | Ile | Met | Asn | Asn | Ser | Gln | Gly | Asp | Gly | Glu | His |
| | 195 | | | | | 200 | | | | | 205 | | | Phe |
| Ala | His | Pro | Pro | Ser | Glu | Val | Lys | Met | His | Phe | Ala | Asn | Gln | Ser |
| | 210 | | | | 215 | | | | | 220 | | | | Ile |
| Glu | Pro | Leu | Gly | Arg | Lys | Val | Glu | Arg | Ser | Glu | Thr | Ser | Ser | Leu |
| 225 | | | | 230 | | | | | 235 | | | | | Pro |
| Gln | Lys | Gly | Leu | Lys | Ile | Pro | Gly | Leu | Glu | His | Ala | Ser | Ile | Glu |
| | | 245 | | | | | | 250 | | | | | 255 | Gly |
| Pro | Ile | Ala | Asn | Leu | Ser | Val | Leu | Gly | Thr | Glu | Glu | Leu | Arg | Gln |
| | 260 | | | | | | 265 | | | | | 270 | | Arg |
| Glu | His | Tyr | Leu | Lys | Gln | Lys | Arg | Asp | Lys | Leu | Met | Ser | Met | Lys |
| | 275 | | | | | 280 | | | | | | 285 | | Arg |
| Asp | Met | Arg | Thr | Lys | Gln | Ile | Gln | Asn | Met | Glu | Gln | Lys | Gly | Lys |
| | | | | | | | | | | | | | | Pro |

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      290                      295                      300
Thr Gly Glu Val Glu Met Thr Glu Lys Pro Glu Met Thr Ala Glu
305                      310                      315                      320
Glu Lys Gln Thr Leu Leu Lys Arg Arg Leu Leu Ala Glu Lys Leu Lys
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Glu Glu Val Ile Asn Lys
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 <212> DNA
 <213> Homo sapiens

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<210> 4924
 <211> 255
 <212> PRT
 <213> Homo sapiens

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      35          40          45
Ser Ser Ser Ser Ser Ser Gly Ser Leu Met His Arg Leu Ala Ile Phe

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| | | | | |
|---|-----|-----|-----|-----|
| 50 | | 55 | | 60 |
| Ser Met Ala Ser Ile Gly Lys Gly Pro Leu Pro Leu Ser Phe Ser Arg | | | | |
| 65 | 70 | 75 | 80 | |
| Ala Gly Gly Trp Pro Pro Thr Lys Ala Lys Asn Ser Ala Ser Ser Ser | | | | |
| | 85 | 90 | 95 | |
| Ser Ser Leu Ala Pro Ser Ser Gly Ile Ile Arg Pro Ser Gly Glu Arg | | | | |
| | 100 | 105 | 110 | |
| Ser Thr Ser Arg Pro Ser Trp Arg Ala Ala Ala Pro Leu Pro Gly | | | | |
| | 115 | 120 | 125 | |
| Gly Pro Gly Gly Pro Ser Ser Cys Ala Ser Ser Arg Leu Asp Ala Arg | | | | |
| | 130 | 135 | 140 | |
| Thr Thr Cys Pro Gln Ala Arg Pro Cys Pro Ala Pro Ser Pro Gly Ser | | | | |
| | 145 | 150 | 155 | 160 |
| Val Ala Ala His Ser Pro Phe Leu Ser Pro Ala Leu Leu Val Gly Ala | | | | |
| | 165 | 170 | 175 | |
| Leu Arg Pro Val Asp Pro Glu Pro Ser Leu Pro Cys Leu Ala Val Pro | | | | |
| | 180 | 185 | 190 | |
| Leu Pro Pro Arg Ala Ser Gly Ala Ala Ala Pro Xaa Ser Ala Ala Ser | | | | |
| | 195 | 200 | 205 | |
| Trp Ala Arg Arg Gly Leu Pro Ser Arg Asn Tyr Asn Ser Arg Gln Ile | | | | |
| | 210 | 215 | 220 | |
| Ser Gln Gly Glu Asp Lys Met Thr Lys Arg Lys Lys Leu Arg Thr Ser | | | | |
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<211> 374

<212> DNA

<213> Homo sapiens

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 240
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<210> 4926

<211> 124

<212> PRT

<213> Homo sapiens

<400> 4926

Ala Asn Leu Glu Lys Glu Leu Gln Glu Met Glu Ala Arg Tyr Glu Lys

| | | | |
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| Glu Phe Gly Asp Gly Ser Asp Glu Asn Glu Met Glu Glu His Glu Leu | | | |
| | 20 | 25 | 30 |
| Lys Asp Glu Glu Asp Gly Lys Asp Ser Asp Glu Ala Glu Asp Ala Glu | | | |
| | 35 | 40 | 45 |
| Leu Tyr Asp Asp Leu Tyr Cys Pro Ala Cys Asp Lys Ser Phe Lys Thr | | | |
| | 50 | 55 | 60 |
| Glu Lys Ala Met Lys Asn His Glu Lys Ser Lys Lys His Arg Glu Met | | | |
| | 65 | 70 | 75 |
| Val Ala Leu Leu Lys Gln Gln Leu Glu Glu Glu Glu Asn Phe Ser | | | |
| | 85 | 90 | 95 |
| Arg Pro Gln Ile Asp Glu Asn Pro Leu Asp Asp Asn Ser Glu Glu Glu | | | |
| | 100 | 105 | 110 |
| Met Glu Asp Ala Pro Lys Gln Lys Leu Ser Lys Lys | | | |
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<211> 1649

<212> DNA

<213> Homo sapiens

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 960

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<211> 405

<212> PRT

<213> Homo sapiens

<400> 4928

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | His | Lys | Asp | Leu | Ala | Gly | Lys | Tyr | Arg | Gln | Ile | Leu | Glu | Lys | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ile | Gln | Leu | Ser | Gly | Ala | Glu | Gln | Leu | Glu | Ala | Leu | Lys | Ala | Phe | Val |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Glu | Ala | Met | Val | Asn | Glu | Asn | Val | Ser | Leu | Val | Ile | Ser | Arg | Gln | Leu |
| | | 50 | | | | 55 | | | | 60 | | | | | |
| Leu | Thr | Asp | Phe | Cys | Thr | His | Leu | Pro | Asn | Leu | Pro | Asp | Ser | Thr | Ala |
| | | | | | 70 | | | | 75 | | | | | 80 | |
| Lys | Glu | Ile | Tyr | His | Phe | Thr | Leu | Glu | Lys | Ile | Gln | Pro | Arg | Val | Ile |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Ser | Phe | Glu | Glu | Gln | Val | Ala | Ser | Ile | Arg | Gln | His | Leu | Ala | Ser | Ile |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Tyr | Glu | Lys | Glu | Glu | Asp | Trp | Arg | Asn | Ala | Ala | Gln | Val | Leu | Val | Gly |
| | | 115 | | | | 120 | | | | | 125 | | | | |
| Ile | Pro | Leu | Glu | Thr | Gly | Gln | Lys | Gln | Tyr | Asn | Val | Asp | Tyr | Lys | Leu |
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| Glu | Thr | Tyr | Leu | Lys | Ile | Ala | Arg | Leu | Tyr | Leu | Glu | Asp | Asp | Asp | Pro |
| | | | | 150 | | | | | | 155 | | | | 160 | |
| Val | Gln | Ala | Glu | Ala | Tyr | Ile | Asn | Arg | Ala | Ser | Leu | Leu | Gln | Asn | Glu |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ser | Thr | Asn | Glu | Gln | Leu | Gln | Ile | His | Tyr | Lys | Val | Cys | Tyr | Ala | Arg |

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 195 200 205
 Glu Leu Ser Tyr Lys Thr Ile Val His Glu Ser Glu Arg Leu Glu Ala
 210 215 220
 Leu Lys His Ala Leu His Cys Thr Ile Leu Ala Ser Ala Gly Gln Gln
 225 230 235 240
 Arg Ser Arg Met Leu Ala Thr Leu Phe Lys Asp Glu Arg Cys Gln Gln
 245 250 255
 Leu Ala Ala Tyr Gly Ile Leu Glu Lys Met Tyr Leu Asp Arg Ile Ile
 260 265 270
 Arg Gly Asn Gln Leu Gln Glu Phe Ala Ala Met Leu Met Pro His Gln
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 Lys Ala Thr Thr Ala Asp Gly Ser Ser Ile Leu Asp Arg Ala Val Ile
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 Glu His Asn Leu Leu Ser Ala Ser Lys Leu Tyr Asn Asn Ile Thr Phe
 305 310 315 320
 Glu Glu Leu Gly Ala Leu Leu Glu Ile Pro Ala Ala Lys Ala Glu Lys
 325 330 335
 Ile Ala Ser Gln Met Ile Thr Glu Gly Arg Met Asn Gly Phe Ile Asp
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 Gln Ile Asp Gly Ile Val His Phe Glu Thr Arg Glu Ala Leu Pro Thr
 355 360 365
 Trp Asp Lys Gln Ile Gln Ser Leu Cys Phe Gln Val Asn Asn Leu Leu
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<211> 5907

<212> DNA

<213> Homo sapiens

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5340
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5400

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 5640
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 5700
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 5760
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 5820
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<210> 4930

<211> 648

<212> PRT

<213> Homo sapiens

<400> 4930

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | His | Ile | Gln | Gly | Ala | Trp | Lys | Thr | Ile | Ser | Asn | Gly | Phe | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Phe | Lys | Asp | Ala | Val | Phe | Asp | Gly | Ser | Ser | Cys | Ile | Ser | Pro | Thr | Ile |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Gln | Gln | Phe | Gly | Tyr | Gln | Arg | Arg | Ala | Ser | Asp | Asp | Gly | Lys | Leu |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Thr | Asp | Pro | Ser | Lys | Thr | Ser | Asn | Thr | Ile | Arg | Val | Phe | Leu | Pro | Asn |
| | 50 | | | | | 55 | | | | 60 | | | | | |
| Lys | Gln | Arg | Thr | Val | Val | Asn | Val | Arg | Asn | Gly | Met | Ser | Leu | His | Asp |
| | 65 | | | | 70 | | | | 75 | | | | | 80 | |
| Cys | Leu | Met | Lys | Ala | Leu | Lys | Val | Arg | Gly | Leu | Gln | Pro | Glu | Cys | Cys |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Ala | Val | Phe | Arg | Leu | Leu | His | Glu | His | Lys | Gly | Lys | Lys | Ala | Arg | Leu |
| | | | 100 | | | | 105 | | | | | | 110 | | |
| Asp | Trp | Asn | Thr | Asp | Ala | Ala | Ser | Leu | Ile | Gly | Glu | Glu | Leu | Gln | Val |
| | | 115 | | | | 120 | | | | | 125 | | | | |
| Asp | Phe | Leu | Asp | His | Val | Pro | Leu | Thr | Thr | His | Asn | Phe | Ala | Arg | Lys |
| | | 130 | | | | 135 | | | | 140 | | | | | |
| Thr | Phe | Leu | Lys | Leu | Ala | Phe | Cys | Asp | Ile | Cys | Gln | Lys | Phe | Leu | Leu |
| | 145 | | | 150 | | | | 155 | | | | | 160 | | |
| Asn | Gly | Phe | Arg | Cys | Gln | Thr | Cys | Gly | Tyr | Lys | Phe | His | Glu | His | Cys |
| | | | 165 | | | | | 170 | | | | | 175 | | |
| Ser | Thr | Lys | Val | Pro | Thr | Met | Cys | Val | Asp | Trp | Ser | Asn | Ile | Arg | Gln |
| | | | 180 | | | | 185 | | | | | 190 | | | |
| Leu | Leu | Leu | Phe | Pro | Asn | Ser | Thr | Ile | Gly | Asp | Ser | Gly | Val | Pro | Ala |
| | | 195 | | | | 200 | | | | | | 205 | | | |
| Leu | Pro | Ser | Leu | Thr | Met | Arg | Arg | Met | Arg | Glu | Ser | Val | Ser | Arg | Met |
| | 210 | | | | | 215 | | | | 220 | | | | | |
| Pro | Val | Ser | Ser | Gln | His | Arg | Tyr | Ser | Thr | Pro | His | Ala | Phe | Thr | Phe |

| | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| 225 | 230 | | | | | | | | | | 235 | | | | | 240 | | | | |
| Asn | Thr | Ser | Ser | Pro | Ser | Ser | Glu | Gly | Ser | Leu | Ser | Gln | Arg | Gln | Arg | | | | | |
| | | | | 245 | | | | | 250 | | | | | | 255 | | | | | |
| Ser | Thr | Ser | Thr | Pro | Asn | Val | His | Met | Val | Ser | Thr | Thr | Leu | Pro | Val | | | | | |
| | | | | 260 | | | | 265 | | | | | 270 | | | | | | | |
| Asp | Ser | Arg | Met | Ile | Glu | Asp | Ala | Ile | Arg | Ser | His | Ser | Glu | Ser | Ala | | | | | |
| | | 275 | | | | | 280 | | | | | 285 | | | | | | | | |
| Ser | Pro | Ser | Ala | Leu | Ser | Ser | Ser | Pro | Asn | Asn | Leu | Ser | Pro | Thr | Gly | | | | | |
| | | | | | | 295 | | | | | 300 | | | | | | | | | |
| Trp | Ser | Gln | Pro | Lys | Thr | Pro | Val | Pro | Ala | Gln | Arg | Glu | Arg | Ala | Pro | | | | | |
| | | | | | 310 | | | | | 315 | | | | | 320 | | | | | |
| Val | Ser | Gly | Thr | Gln | Glu | Lys | Asn | Lys | Ile | Arg | Pro | Arg | Gly | Gln | Arg | | | | | |
| | | | | 325 | | | | 330 | | | | | | 335 | | | | | | |
| Asp | Ser | Ser | Trp | Tyr | Trp | Glu | Ile | Glu | Ala | Ser | Glu | Val | Met | Leu | Ser | | | | | |
| | | | 340 | | | | | 345 | | | | | 350 | | | | | | | |
| Thr | Arg | Ile | Gly | Ser | Gly | Ser | Phe | Gly | Thr | Val | Tyr | Lys | Gly | Lys | Trp | | | | | |
| | | 355 | | | | | 360 | | | | | 365 | | | | | | | | |
| His | Gly | Asp | Val | Ala | Val | Lys | Ile | Leu | Lys | Val | Val | Asp | Pro | Thr | Pro | | | | | |
| | | | | | | 375 | | | | | 380 | | | | | | | | | |
| Glu | Gln | Phe | Gln | Ala | Phe | Arg | Asn | Glu | Val | Ala | Val | Leu | Arg | Lys | Thr | | | | | |
| | | | | | 390 | | | | | 395 | | | | | 400 | | | | | |
| Arg | His | Val | Asn | Ile | Leu | Leu | Phe | Met | Gly | Tyr | Met | Thr | Lys | Asp | Asn | | | | | |
| | | | | 405 | | | | 410 | | | | | | 415 | | | | | | |
| Leu | Ala | Ile | Val | Thr | Gln | Trp | Cys | Glu | Gly | Ser | Ser | Leu | Tyr | Lys | His | | | | | |
| | | | | 420 | | | | 425 | | | | | 430 | | | | | | | |
| Leu | His | Val | Gln | Glu | Thr | Lys | Phe | Gln | Met | Phe | Gln | Leu | Ile | Asp | Ile | | | | | |
| | | 435 | | | | | 440 | | | | | 445 | | | | | | | | |
| Ala | Arg | Gln | Thr | Ala | Gln | Gly | Met | Asp | Tyr | Leu | His | Ala | Lys | Asn | Ile | | | | | |
| | | | | | | 455 | | | | | 460 | | | | | | | | | |
| Ile | His | Arg | Asp | Met | Lys | Ser | Asn | Asn | Ile | Phe | Leu | His | Glu | Gly | Leu | | | | | |
| | | | | | 470 | | | | 475 | | | | | | 480 | | | | | |
| Thr | Val | Lys | Ile | Gly | Asp | Phe | Gly | Leu | Ala | Thr | Val | Lys | Ser | Arg | Trp | | | | | |
| | | | | 485 | | | | 490 | | | | | | 495 | | | | | | |
| Ser | Gly | Ser | Gln | Gln | Val | Glu | Gln | Pro | Thr | Gly | Ser | Val | Leu | Trp | Met | | | | | |
| | | | | 500 | | | | 505 | | | | | 510 | | | | | | | |
| Ala | Pro | Glu | Val | Ile | Arg | Met | Gln | Asp | Asn | Asn | Pro | Phe | Ser | Phe | Gln | | | | | |
| | | | 515 | | | | 520 | | | | | 525 | | | | | | | | |
| Ser | Asp | Val | Tyr | Ser | Tyr | Gly | Ile | Val | Leu | Tyr | Glu | Leu | Met | Thr | Gly | | | | | |
| | | | | | | 535 | | | | | 540 | | | | | | | | | |
| Glu | Leu | Pro | Tyr | Ser | His | Ile | Asn | Asn | Arg | | Gln | Ile | Ile | Phe | Met | | | | | |
| | | | | | 550 | | | | 555 | | | | | | 560 | | | | | |
| Val | Gly | Arg | Gly | Tyr | Ala | Ser | Pro | Asp | Leu | Ser | Lys | Leu | Tyr | Lys | Asn | | | | | |
| | | | | 565 | | | | | 570 | | | | | 575 | | | | | | |
| Cys | Pro | Lys | Ala | Met | Lys | Arg</ | | | | | | | | | | | | | | |

<210> 4931

<211> 261

<212> DNA

<213> Homo sapiens

<400> 4931

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 120
 taccctgatg cccatctctc agctgaggac tttaatatct atggccatgg gggccgccag
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<210> 4932

<211> 87

<212> PRT

<213> Homo sapiens

<400> 4932

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Ile | Leu | Gly | Leu | Ala | Phe | Gly | Xaa | Leu | Glu | Ser | Lys | Ser | Ser | Ile |
| 1 | | | | 5 | | | | 10 | | | | | 15 | | |
| Lys | Arg | Val | Leu | Ala | Ile | Thr | Thr | Val | Leu | Ser | Pro | Ala | Leu | Ser | Val |
| | | | 20 | | | | 25 | | | | | 30 | | | |
| Thr | Gln | Gly | Thr | Arg | Lys | Ile | Leu | Tyr | Pro | Tyr | Ala | His | Leu | Ser | Ala |
| | | | 35 | | | | 40 | | | | 45 | | | | |
| Glu | Asp | Phe | Asn | Ile | Tyr | Gly | His | Gly | Gly | Arg | Gln | Phe | Trp | Leu | Val |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Ser | Ser | Cys | Phe | Phe | Phe | Leu | Leu | Gly | Gly | Ala | Ser | Thr | Cys | Met | Arg |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Ala | Ser | Trp | His | Arg | Ser | Thr | | | | | | | | | |
| | | | 85 | | | | | | | | | | | | |

<210> 4933

<211> 975

<212> DNA

<213> Homo sapiens

<400> 4933

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 120
 ccaagggctg ggcattggcg caccgctggt tcaccctctc tcgtcttctc ccacaggtgt
 180
 gcttcccgca cagctgcagc catgggggtct gaggaccacg gcgcccgaaa cccagctgt
 240
 aaaatcatga cgtttcgccc aaccatggaa gaatttaaag acttcaacaa atacgtggcc
 300
 tacatatagt cgcagggagc ccaccggggc ggccctggcca agatcatccc ccgaaggag
 360

tggaagccgc gccagacgta tgatgacatc gacgacgtgg tgatcccgcc gcccatccag
 420
 caggttggtga cgggccagtc gggcctcttc acgcagtaca atatccagaa gaaggccatg
 480
 acagtggggc agtaccgccg cctggccaac agcgagaagt actgtacccc ggggcaccag
 540
 gactttgacg accttgaacg caaatactgg aagaacctca cctttgtctc cccgatctac
 600
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 660
 gggaccagct tcctgggtggg tgggtgggtggg agggccctga acgggactct gccttggcag
 720
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 780
 cctgtggtga cgaagagga agccaggctt tctctgattt ttgcagggcc cctcctgcct
 840
 caccctgcag cccccacct gagctcacc tggtcccccacc tctggcctca gcagccggcc
 900
 cacagcgtgt tacaacacg tgtactttcc cagtccctgc cgctcgtctt cctggcactg
 960
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<210> 4934

<211> 181

<212> PRT

<213> Homo sapiens

<400> 4934

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 20 25 30
 Ala Tyr Ile Glu Ser Gln Gly Ala His Arg Ala Gly Leu Ala Lys Ile
 35 40 45
 Ile Pro Pro Lys Glu Trp Lys Pro Arg Gln Thr Tyr Asp Asp Ile Asp
 50 55 60
 Asp Val Val Ile Pro Ala Pro Ile Gln Gln Val Val Thr Gly Gln Ser
 65 70 75 80
 Gly Leu Phe Thr Gln Tyr Asn Ile Gln Lys Lys Ala Met Thr Val Gly
 85 90 95
 Glu Tyr Arg Arg Leu Ala Asn Ser Glu Lys Tyr Cys Thr Pro Arg His
 100 105 110
 Gln Asp Phe Asp Asp Leu Glu Arg Lys Tyr Trp Lys Asn Leu Thr Phe
 115 120 125
 Val Ser Pro Ile Tyr Gly Ala Asp Ile Ser Gly Ser Leu Tyr Asp Asp
 130 135 140
 Val Ser Met Arg Leu Arg Gly Arg Thr Gly Thr Ser Phe Leu Val Gly
 145 150 155 160
 Gly Gly Gly Arg Ala Leu Asn Gly Thr Leu Pro Trp Gln Met Lys Leu
 165 170 175
 Pro Gly Arg Gln Gly
 180

<210> 4935

<211> 1668

<212> DNA

<213> Homo sapiens

<400> 4935

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120
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180
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240
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300
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360
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480
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540
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600
aacagccttc cacattcagc agtctcaaat gctggcagca aaagcagtgt catggacggg
660
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720
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780
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840
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900
catgagagac tgactgtact aatatttctt gaagactgta tagtactgc ttgtcaggag
960
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1020
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1140
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1200
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1320
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1380
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1440

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 1500
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 1560
 ttctggcaat ccacagaaag agaagagcct taatttttaa aaccattttt agtcatttta
 1620
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<210> 4936

<211> 337

<212> PRT

<213> Homo sapiens

<400> 4936

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Lys | Phe | Leu | Ala | Cys | Val | Ser | Gln | Asp | Gly | Phe | Leu | Arg | Val | Phe |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asn | Phe | Asp | Ser | Val | Glu | Leu | His | Gly | Thr | Met | Lys | Ser | Tyr | Phe | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Leu | Leu | Cys | Val | Cys | Trp | Ser | Pro | Asp | Gly | Lys | Tyr | Ile | Val | Thr |
| | 35 | | | | | | 40 | | | | | 45 | | | |
| Gly | Gly | Glu | Asp | Asp | Leu | Val | Thr | Val | Trp | Ser | Phe | Val | Asp | Cys | Arg |
| | 50 | | | | 55 | | | | | | 60 | | | | |
| Val | Ile | Ala | Arg | Gly | His | Gly | His | Lys | Ser | Trp | Val | Ser | Val | Val | Ala |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Phe | Asp | Pro | Tyr | Thr | Ser | Val | Glu | Glu | Gly | Asp | Pro | Met | Glu | Phe | |
| | | | | 85 | | | | 90 | | | | | 95 | | |
| Ser | Gly | Ser | Asp | Glu | Asp | Phe | Gln | Asp | Leu | Leu | His | Phe | Gly | Glu | Ile |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Glu | Gln | Ile | Val | His | Ser | Pro | Gly | Ser | Pro | Asn | Gly | Thr | Leu | Gln | Thr |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Ala | Ala | Pro | Ser | Val | Thr | Tyr | Arg | Phe | Gly | Ser | Val | Gly | Gln | Asp | Thr |
| | | 130 | | | | | 135 | | | | | 140 | | | |
| Gln | Leu | Cys | Leu | Trp | Asp | Leu | Thr | Glu | Asp | Ile | Leu | Phe | Pro | His | Gln |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Pro | Leu | Ser | Arg | Ala | Arg | Thr | His | Thr | Asn | Val | Met | Asn | Ala | Thr | Ser |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Pro | Pro | Ala | Gly | Ser | Asn | Gly | Asn | Ser | Val | Thr | Thr | Pro | Gly | Asn | Ser |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Val | Pro | Pro | Pro | Leu | Pro | Arg | Ser | Asn | Ser | Leu | Pro | His | Ser | Ala | Val |
| | | | 195 | | | | 200 | | | | | 205 | | | |
| Ser | Asn | Ala | Gly | Ser | Lys | Ser | Ser | Val | Met | Asp | Gly | Ala | Ile | Ala | Ser |
| | | | 210 | | | 215 | | | | | 220 | | | | |
| Gly | Val | Ser | Lys | Phe | Ala | Thr | Leu | Ser | Leu | His | Asp | Arg | Lys | Glu | Arg |
| 225 | | | | 230 | | | | | | 235 | | | | | 240 |
| His | His | Glu | Lys | Asp | His | Lys | Arg | Asn | His | Ser | Met | Gly | His | Ile | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Ser | Lys | Ser | Ser | Asp | Lys | Leu | Asn | Leu | Val | Thr | Lys | Thr | Lys | Thr | Asp |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Pro | Ala | Lys | Thr | Leu | Gly | Thr | Pro | Leu | Cys | Pro | Arg | Met | Glu | Asp | Val |
| | | 275 | | | | 280 | | | | | | 285 | | | |
| Pro | Leu | Leu | Glu | Pro | Leu | Ile | Cys | Lys | Lys | Ile | Ala | His | Glu | Arg | Leu |
| 290 | | | | | | 295 | | | | | 300 | | | | |
| Thr | Val | Leu | Ile | Phe | Leu | Glu | Asp | Cys | Ile | Val | Thr | Ala | Cys | Gln | Glu |

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 Trp Ala Leu Tyr Lys Gln Arg Glu Ala Pro Glu Leu Val
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<210> 4939

<211> 730

<212> DNA

<213> Homo sapiens

<400> 4939

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 120
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 180
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 240
 gcatgtcttc ctgctgtgc ctcttcttt tctttcgagt ccagccttg cccaagcgcc
 300
 ccttccaaag cttcaccagc gccagcagcg ctgatgtgtg ggaccacatc acccccata
 360
 atcccagcag ccacagagcc agtctgtgca tcctcacggg cggggaggcc cacagccacc
 420
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 480
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 540
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 600
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<210> 4940

<211> 158

<212> PRT

<213> Homo sapiens

<400> 4940

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 20 25 30
 Ala Asp Ser Ser Ala Ser Thr Arg Pro Pro Gln Gly Pro Pro Ser Leu
 35 40 45
 Asp Ser Lys Ala Ser Thr Trp Leu Pro Leu Pro Val Thr Ser Ser Ser
 50 55 60
 Ala Glu Pro Ser Arg Pro Asn Ser Cys Pro Pro Ala Cys Ser Pro Ala
 65 70 75 80
 Ala Ala Ser Ser Phe Ser Phe Glu Ser Gln Pro Cys Pro Ser Ala Pro

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 85 | | 90 | | 95 | | | | | | | | | | |
| Ser | Lys | Ala | Ser | Pro | Ala | Pro | Ala | Ala | Leu | Met | Cys | Gly | Thr | Thr | Ser |
| | 100 | | | | | | | 105 | | | | | 110 | | |
| Pro | Pro | Ile | Ile | Pro | Ala | Ala | Thr | Glu | Pro | Val | Cys | Ala | Ser | Ser | Arg |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Ser | Gly | Arg | Pro | Thr | Ala | Thr | Ala | Cys | Ser | Leu | Gln | Pro | Leu | Leu | Asp |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Val | Leu | Ser | Ala | Ser | Ala | Ser | Ser | Ser | Ser | Val | Ser | Leu | Ala | | |
| 145 | | | | 150 | | | | | | 155 | | | | | |

<210> 4941

<211> 1718

<212> DNA

<213> Homo sapiens

<400> 4941

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1140

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 1260
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 1320
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<210> 4942

<211> 469

<212> PRT

<213> Homo sapiens

<400> 4942

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 Pro Pro Lys Asp Thr Lys Lys Gly Ala Gln Pro Ser Pro Phe Val Pro
 35 40 45
 Val Arg Trp Val Val Lys Val Val Lys Thr Leu Leu Arg Met Gly
 50 55 60
 Cys Ser Tyr Glu Thr Thr Phe Leu Glu Asp Gln Gly Gly Trp Glu Leu
 65 70 75 80
 Met Glu Gln Val Glu Ser His His Arg Gly Val Ala Leu Leu Ala Arg
 85 90 95
 Ala Met Val Gln Tyr Ser Cys Gln Glu Leu Cys Arg Ile Leu Tyr Leu
 100 105 110
 Leu Ile Pro Leu Leu Glu Arg Gly Asp Glu Lys His Arg Ile Thr Ala
 115 120 125
 Thr Ala Phe Phe Val Glu Leu Leu Gln Met Glu Gln Val Arg Arg Ile
 130 135 140
 Pro Glu Glu Tyr Ser Leu Gly Arg Met Ala Glu Gly Leu Ser His His
 145 150 155 160
 Asp Pro Ile Met Lys Val Leu Ser Ile Arg Gly Leu Val Ile Leu Ala
 165 170 175
 Arg Arg Ser Glu Lys Thr Ala Lys Val Lys Ala Leu Leu Pro Ser Met
 180 185 190
 Val Lys Gly Leu Lys Asn Met Asp Gly Met Leu Val Val Glu Ala Val
 195 200 205
 His Asn Leu Lys Ala Val Phe Lys Gly Arg Asp Gln Lys Leu Met Asp

```

      210              215              220
Ser Ala Val Tyr Val Glu Met Leu Gln Ile Leu Leu Pro His Phe Ser
225              230              235              240
Asp Ala Arg Glu Val Val Arg Ser Ser Cys Ile Asn Leu Tyr Gly Lys
      245              250              255
Val Val Gln Lys Leu Arg Ala Pro Arg Thr Gln Ala Met Glu Glu Gln
      260              265              270
Leu Val Ser Thr Leu Val Pro Leu Leu Leu Thr Met Gln Glu Gly Asn
      275              280              285
Ser Lys Val Ser Gln Lys Cys Val Lys Thr Leu Leu Arg Cys Ser Tyr
      290              295              300
Phe Met Ala Trp Glu Leu Pro Lys Arg Ala Tyr Ser Arg Lys Pro Trp
305              310              315              320
Asp Asn Gln Gln Gln Thr Val Ala Lys Ile Cys Lys Cys Leu Val Asn
      325              330              335
Thr His Arg Asp Ser Ala Phe Ile Phe Leu Ser Gln Ser Leu Glu Tyr
      340              345              350
Ala Lys Asn Ser Arg Ala Ser Leu Arg Lys Cys Ser Val Met Phe Ile
      355              360              365
Gly Ser Leu Val Pro Cys Met Glu Ser Ile Met Thr Glu Asp Arg Leu
      370              375              380
Asn Glu Val Lys Ala Ala Leu Asp Asn Leu Arg His Asp Pro Glu Ala
385              390              395              400
Ser Val Cys Ile Tyr Ala Ala Gln Val Gln Asp His Ile Leu Ala Ser
      405              410              415
Cys Trp Gln Asn Ser Trp Leu Pro His Gly Asn Ser Trp Val Cys Tyr
      420              425              430
Ser Ala Thr Thr His Arg Trp Ser Pro Ser Cys Glu Asn Leu Pro Thr
      435              440              445
Ser His Gln Arg Arg Ser Trp Ile Met Gln Ala Leu Gly Ser Trp Lys
      450              455              460
Met Ser Leu Lys Lys
465

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<210> 4943

<211> 1020

<212> DNA

<213> Homo sapiens

<400> 4943

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120
tagggcgaat ccacttcatt agtgaccagc tcgggcggtt cactgtcatc acacaataa
180
cttggccttt ttctgcctca gttgggggat ttcttaaacy tagaataccc gcgtttccgc
240
tgccgtaatt tcctctcagg cgcaattact ctcttcata ttggttaaca gtagaaggct
300
cagtttctct gctcatcaca cggccttcgg cactgtagct ttgggtgggt ggctgcagat
360
taattttgta accaccttaa gaaaaatacy gaactctaac tccttgccac tcaagaaatg
420

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tcttcccttt cagaatatgc ctccgcgatg tctcgtctca gtgcccggct atttggtgaa
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 540
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 600
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 720
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 780
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 840
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<210> 4944

<211> 106

<212> PRT

<213> Homo sapiens

<400> 4944

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 20 25 30
 Val Val Lys Leu Phe Ser Glu Leu Pro Leu Ala Lys Lys Lys Glu Thr
 35 40 45
 Tyr Asp Trp Tyr Pro Asn His His Thr Tyr Ala Glu Leu Met Gln Thr
 50 55 60
 Leu Arg Phe Leu Gly Leu Tyr Arg Asp Glu His Gln Asp Phe Met Asp
 65 70 75 80
 Glu Gln Lys Arg Leu Lys Lys Leu Arg Gly Lys Glu Lys Pro Lys Lys
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 Gly Glu Gly Lys Arg Ala Ala Lys Arg Lys
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<210> 4945

<211> 1792

<212> DNA

<213> Homo sapiens

<400> 4945

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 120
 tacaacacat atgatgtcca cttttatgct tcctttgccc tcatcatgct ctggcccaaa
 180

cttagagctca gcctacagta tgacatggct ctggccactc tcagggaggga cctgacacgg
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 480
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 660
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 720
 cctgagggtga gaaactgggc aacaagggtat ttagggctc aagaagaat gactcattgt
 780
 ctattacacg gcatggggagc agctggagct gccagtctga ccccaaaacc catgtccctg
 840
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<210> 4946

<211> 197

<212> PRT

<213> Homo sapiens

<400> 4946

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      20              25              30
Pro Pro Gly Gln Glu Tyr Arg Met Tyr Asn Thr Tyr Asp Val His Phe
      35              40              45
Tyr Ala Ser Phe Ala Leu Ile Met Leu Trp Pro Lys Leu Glu Leu Ser
      50              55              60
Leu Gln Tyr Asp Met Ala Leu Ala Thr Leu Arg Glu Asp Leu Thr Arg
      65              70              75              80
Arg Arg Tyr Leu Met Ser Gly Val Met Ala Pro Val Lys Arg Arg Asn
      85              90              95
Val Ile Pro His Asp Ile Gly Asp Pro Asp Asp Glu Pro Trp Leu Arg
      100             105             110
Val Asn Ala Tyr Leu Ile His Asp Thr Ala Asp Trp Lys Asp Leu Asn
      115             120             125
Leu Lys Phe Val Leu Gln Val Tyr Arg Asp Tyr Tyr Leu Thr Gly Asp
      130             135             140
Gln Asn Phe Leu Lys Asp Met Trp Pro Val Cys Leu Val Arg Asp Ala
      145             150             155             160
His Ala Val Ala Ser Val Pro Gly Val Trp Leu Val Ser Gly Lys Ser
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Leu Ala Gly Cys Cys Leu Ser Ser Val Pro Arg Ser Ser Thr Ser Trp
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Ser Leu Ser Arg Leu
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<210> 4947

<211> 2060

<212> DNA

<213> Homo sapiens

<400> 4947

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cacttgaata acagccctgt gccattttag atctcgagca ctgggatttg tcaattgtca
 180
atgtgatgct tggggactgg catattcggt gcaaggggtt ttttcacctt tcttgaagct
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acagagtgaag agtacacccg aagtgcagagg gactcagaca tcttgtgtcc tttgctcagc
 360
tggaagacta ctaagcacgt agtttcagtc attcagttga tagacatttg aacacttatg
 420

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gtggtgccta accccaggcc gagtgtgact cattccacct tgcagttaaa gcagtggaaag
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720
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1920
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2040

aaaaaaaaaa aaaaaaaaaa
2060

<210> 4948

<211> 127

<212> PRT

<213> Homo sapiens

<400> 4948

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Ala Glu Leu Thr Pro Leu Pro Phe Ser Leu Gln Ala Leu Ser Ile Leu
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Met Leu Pro His Asn Ile Pro Ser Ser Leu Ser Leu Leu Thr Ser Met
           20           25           30
Val Asp Asp Met Trp His Tyr Ala Gly Asp Gln Ser Thr Asp Phe Asn
           35           40           45
Trp Tyr Thr Arg Arg Ala Met Leu Ala Ala Ile Tyr Asn Thr Thr Glu
           50           55           60
Leu Val Met Met Gln Asp Ser Ser Pro Asp Phe Glu Asp Thr Trp Arg
           65           70           75
Phe Leu Glu Asn Arg Val Asn Asp Ala Met Asn Met Gly His Thr Ala
           85           90           95
Lys Gln Val Lys Ser Thr Gly Glu Ala Leu Val Gln Gly Leu Met Gly
           100          105          110
Ala Ala Val Thr Leu Lys Asn Leu Thr Xaa Leu Asn Gln Arg Arg
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<210> 4949

<211> 1259

<212> DNA

<213> Homo sapiens

<400> 4949

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 120
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 180
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 360
gcatgccagg gcgatccca gaggccctgc agcggaatg gccactgcag cggagatggg
 420
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 540
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gtgggctggg tgctggacga gggcgctgtg gtggatgtgg acgagtgtgc ggccgagccg
 660

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 1020
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 1140
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 1259

<210> 4950

<211> 318

<212> PRT

<213> Homo sapiens

<400> 4950

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Pro | Ala | Cys | Pro | Pro | Gly | Tyr | Leu | Thr | Ala | Pro | Cys | His | Arg | Cys |
| 1 | | | 5 | | | | | 10 | | | | | | 15 | |
| Arg | Gly | Leu | Val | Asp | Lys | Phe | Asn | Gln | Gly | Met | Val | Asp | Thr | Ala | Lys |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Lys | Asn | Phe | Gly | Gly | Asn | Thr | Ala | Trp | Glu | Glu | Lys | Thr | Leu | Ser | |
| | 35 | | | | | 40 | | | | | 45 | | | | |
| Lys | Tyr | Glu | Ser | Ser | Glu | Ile | Arg | Leu | Leu | Glu | Ile | Leu | Glu | Gly | Leu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Cys | Glu | Ser | Ser | Asp | Phe | Glu | Cys | Asn | Gln | Met | Leu | Glu | Ala | Gln | Glu |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Glu | His | Leu | Glu | Ala | Trp | Trp | Leu | Gln | Leu | Lys | Ser | Glu | Tyr | Pro | Asp |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Leu | Phe | Glu | Trp | Phe | Cys | Val | Lys | Thr | Leu | Lys | Val | Cys | Cys | Ser | Pro |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Gly | Thr | Tyr | Gly | Pro | Asp | Cys | Leu | Ala | Cys | Gln | Gly | Gly | Ser | Gln | Arg |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Pro | Cys | Ser | Gly | Asn | Gly | His | Cys | Ser | Gly | Asp | Gly | Ser | Arg | Gln | Gly |
| | 130 | | | | 135 | | | | | | 140 | | | | |
| Asp | Gly | Ser | Cys | Arg | Cys | His | Met | Gly | Tyr | Gln | Gly | Pro | Leu | Cys | Thr |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Asp | Cys | Met | Asp | Gly | Tyr | Phe | Ser | Ser | Leu | Arg | Asn | Glu | Thr | His | Ser |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Ile | Cys | Thr | Ala | Cys | Asp | Glu | Ser | Cys | Lys | Thr | Cys | Ser | Gly | Leu | Thr |
| | | 180 | | | | | | 185 | | | | | 190 | | |
| Asn | Arg | Asp | Cys | Gly | Glu | Cys | Glu | Val | Gly | Trp | Val | Leu | Asp | Glu | Gly |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Ala | Cys | Val | Asp | Val | Asp | Glu | Cys | Ala | Ala | Glu | Pro | Pro | Pro | Cys | Ser |

| | | |
|---|-----|-----|
| 210 | 215 | 220 |
| Ala Ala Gln Phe Cys Lys Asn Ala Asn Gly Ser Tyr Thr Cys Glu Glu | | |
| 225 | 230 | 235 |
| Cys Asp Ser Ser Cys Val Gly Cys Thr Gly Glu Gly Pro Gly Asn Cys | | 240 |
| | 245 | 250 |
| Lys Glu Cys Ile Ser Gly Tyr Ala Arg Glu His Gly Gln Cys Ala Asp | | 255 |
| | 260 | 265 |
| Val Asp Glu Cys Ser Leu Ala Glu Lys Thr Cys Val Arg Lys Asn Glu | | 270 |
| | 275 | 280 |
| Asn Cys Tyr Asn Thr Pro Gly Ser Tyr Val Cys Val Cys Pro Asp Gly | | 285 |
| | 290 | 295 |
| Phe Glu Glu Xaa Gly Arg Cys Leu Cys Ala Ala Gly Arg Gly | | 300 |
| 305 | 310 | 315 |

<210> 4951

<211> 1835

<212> DNA

<213> Homo sapiens

<400> 4951

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<210> 4952

<211> 318

<212> PRT

<213> Homo sapiens

<400> 4952

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| Met | Ala | Ala | Ala | Ala | Val | Ser | Gly | Ala | Leu | Gly | Arg | Ala | Gly | Trp | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Leu | Gln | Leu | Arg | Cys | Leu | Pro | Val | Ala | Arg | Cys | Arg | Gln | Ala | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Pro | Arg | Ala | Phe | His | Ala | Ser | Ala | Val | Gly | Leu | Arg | Ser | Ser | Asp |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Glu | Gln | Lys | Gln | Gln | Pro | Pro | Asn | Ser | Phe | Ser | Gln | Gln | His | Ser | Glu |
| | | | 50 | | | 55 | | | | | 60 | | | | |
| Thr | Gln | Gly | Ala | Glu | Lys | Pro | Asp | Pro | Glu | Ser | Ser | His | Ser | Pro | Pro |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Arg | Tyr | Thr | Asp | Gln | Gly | Gly | Glu | Glu | Glu | Glu | Asp | Tyr | Glu | Ser | Glu |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Glu | Gln | Leu | Gln | His | Arg | Ile | Leu | Thr | Ala | Ala | Leu | Glu | Phe | Val | Pro |
| | | | | 100 | | | | 105 | | | | | 110 | | |
| Ala | His | Gly | Trp | Thr | Ala | Glu | Ala | Ile | Ala | Glu | Gly | Ala | Gln | Ser | Leu |
| | | | 115 | | | | 120 | | | | | 125 | | | |
| Gly | Leu | Ser | Ser | Ala | Ala | Ala | Ser | Met | Phe | Gly | Arg | Met | Gly | Ser | Glu |
| | | | 130 | | | | 135 | | | | 140 | | | | |
| Leu | Ile | Leu | His | Phe | Val | Thr | Gln | Cys | Asn | Thr | Arg | Leu | Thr | Arg | Val |

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145          150          155          160
Leu Glu Glu Glu Gln Lys Leu Val Gln Leu Gly Gln Ala Glu Lys Arg
          165          170          175
Lys Thr Asp Gln Phe Leu Arg Asp Ala Val Glu Thr Arg Leu Arg Met
          180          185          190
Leu Ile Pro Tyr Ile Glu His Trp Pro Arg Ala Leu Ser Ile Leu Met
          195          200          205
Leu Pro His Asn Ile Pro Ser Ser Leu Ser Leu Thr Ser Met Val
          210          215          220
Asp Asp Met Trp His Tyr Ala Gly Asp Gln Ser Thr Asp Phe Asn Trp
225          230          235          240
Tyr Thr Arg Arg Ala Met Leu Ala Ala Ile Tyr Asn Thr Thr Glu Leu
          245          250          255
Val Met Met Gln Asp Ser Ser Pro Asp Phe Glu Asp Thr Trp Arg Phe
          260          265          270
Leu Glu Asn Arg Val Asn Asp Ala Met Asn Met Gly His Thr Ala Lys
          275          280          285
Gln Val Lys Ser Thr Gly Glu Ala Leu Val Gln Gly Leu Met Gly Ala
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Ala Val Thr Leu Lys Asn Leu Thr Gly Leu Asn Gln Arg Arg
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<210> 4953

<211> 355

<212> DNA

<213> Homo sapiens

<400> 4953

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120
ggtgccccct ggtggcagct tgaaggaagg acggggcagtg ggtcgagacc agcgggggacc
180
taccocgcga aacgcacata aaagctggaa tcagcttggtt acagctgcag gtccctctcg
240
tcgatttggt atagaccctc ttgggaccca ctgcaccagg gaaccccaaa tgcagctcag
300
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<210> 4954

<211> 114

<212> PRT

<213> Homo sapiens

<400> 4954

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Met Ala Gly Gly Arg Gln Asp Arg Arg Ala Gln Ala Trp Thr Pro Leu
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Ser Ala Trp Gly Cys Leu Ala Ala Ser Pro Val Leu Gly Ala Gly Ile
          20          25          30
Thr Trp Pro Arg Val Pro Pro Gly Gly Ser Leu Lys Glu Gly Arg Ala
          35          40          45
Val Gly Arg Ser Gln Arg Gly Pro Thr Pro Gln Asn Ala His Lys Ser

```

```

      50              55              60
Trp Asn Gln Leu Val Thr Ala Ala Gly Pro Ser Arg Pro Ile Trp Ile
65              70              75              80
Asp Pro Leu Gly Thr His Cys Thr Arg Glu Pro Gln Met Gln Leu Ser
      85              90              95
Ser Met Gly Gly Ala Leu Ser Ala Gly Gly Val Trp Asp Arg Arg Arg
      100              105              110
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<210> 4955

<211> 364

<212> DNA

<213> Homo sapiens

<400> 4955

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180
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240
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<210> 4956

<211> 114

<212> PRT

<213> Homo sapiens

<400> 4956

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Met Gly Thr Glu His Leu Gly Leu Arg Pro Glu Glu Gln Thr Ala Arg
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Gln Gly Gly Arg Gly His Gln Pro Pro Phe Cys Asp Ile Arg Thr
      20              25              30
Arg Ala Gln Pro Ala Gln Glu Gln Leu Trp Ala Arg Asp Val Glu Arg
      35              40              45
Lys Ser Ser Xaa Gly Gly Thr His Gly Ile Leu Gly Gly His Leu Arg
      50              55              60
Ala Pro Pro Pro Thr Ile Pro Pro Ser Lys Val Ala Ser Glu Cys Glu
65              70              75              80
Gly Arg Gly Lys Gln Thr Pro Ala Pro His Ser Pro Ser Leu Pro His
      85              90              95
Ser Tyr Arg Val Gly Gly Val Pro Gly Met Ile Pro Glu Gly Arg Ile
      100              105              110
Gln Gly

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<210> 4957

<211> 872

<212> DNA

<213> Homo sapiens

<400> 4957

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360
caataatatg tcagtcaact gcttgtcaga gacacttagc tgctgacagg tcctcataac
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720
ccgccatctc gctcaggagc tcttccacaa ccgcccggaa ctacggccat cgcgccgcag
780
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<210> 4958

<211> 51

<212> PRT

<213> Homo sapiens

<400> 4958

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Pro Pro Pro Pro Ser Arg Ser Gly Ala Pro Pro Gln Pro Pro Ala Thr
20        25        30
Thr Ala Ile Ala Pro Gln Asp Thr Pro Ser Thr Thr Arg Thr Ala Arg
35        40        45
Arg Ser Ser
50

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<210> 4959

<211> 449

<212> DNA

<213> Homo sapiens

<400> 4959

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 120
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 180
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<210> 4960

<211> 115

<212> PRT

<213> Homo sapiens

<400> 4960

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Asn | Ser | Thr | Gln | Asn | Thr | Trp | Gly | Cys | Gly | Leu | Trp | Ser | His |
| 1 | | | 5 | | | | | 10 | | | | | 15 | | |
| Lys | Val | Lys | Trp | Arg | Pro | Ser | Glu | Ser | Ser | Lys | Gly | Leu | Pro | Tyr | His |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Ile | Trp | Arg | Ile | Arg | Cys | Phe | Ser | Pro | Ile | Ser | Gln | Gly | Trp | Lys | Leu |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Ala | Ser | Ile | Leu | Arg | Trp | Pro | Glu | Ala | Leu | Pro | Leu | Arg | Gln | Ile | Met |
| | | 50 | | | 55 | | | | | 60 | | | | | |
| Thr | Pro | Asp | Ala | Ser | Ser | Pro | Leu | Tyr | Pro | Cys | His | Met | Glu | Gly | Pro |
| 65 | | | | 70 | | | | 75 | | | | | 80 | | |
| Lys | His | Leu | Ala | Leu | Asn | Cys | Lys | Trp | Lys | Pro | Pro | Gln | Pro | Leu | His |
| | | | 85 | | | | | 90 | | | | 95 | | | |
| Gln | Pro | Pro | Ala | Lys | Glu | Thr | Thr | Thr | Thr | Ile | Cys | Ile | Pro | Ser | Leu |
| | | | 100 | | | | 105 | | | | | 110 | | | |
| Asp | Thr | Arg | | | | | | | | | | | | | |
| | | 115 | | | | | | | | | | | | | |

<210> 4961

<211> 4737

<212> DNA

<213> Homo sapiens

<400> 4961

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<210> 4962

<211> 1069

<212> PRT

<213> Homo sapiens

<400> 4962

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| | 20 | 25 | 30 |
| Pro Leu Gly | Asp Tyr Gly Val | Gly Ser Lys Asn Ser Lys Arg | Ala Arg |
| | 35 | 40 | 45 |
| Glu Lys Arg | Asp Ser Arg Asn Met | Glu Val Gln Val Thr | Gln Glu Met |
| | 50 | 55 | 60 |
| Arg Asn Val | Ser Ile Gly Met | Gly Ser Ser Asp Glu Trp | Ser Asp Val |
| | 65 | 70 | 75 |
| Gln Asp Ile | Ile Asp Ser Thr | Pro Glu Leu Asp Met Cys | Pro Glu Thr |
| | 85 | 90 | 95 |
| Arg Leu Asp | Arg Thr Gly Ser | Ser Pro Thr Gln Gly Ile | Val Asn Lys |
| | 100 | 105 | 110 |
| Ala Phe Gly | Ile Asn Thr Asp | Ser Leu Tyr His | Glu Leu Ser Thr Ala |
| | 115 | 120 | 125 |
| Gly Ser Glu | Val Ile Gly Asp | Val Asp Glu Gly Ala Asp | Leu Leu Gly |
| | 130 | 135 | 140 |
| Glu Phe Ser | Gly Met Gly Lys | Glu Val Gly Asn Leu | Leu Leu Glu Asn |
| | 145 | 150 | 155 |
| Ser Gln Leu | Leu Glu Thr Lys | Asn Ala Leu Asn Val | Val Lys Asn Asp |
| | 165 | 170 | 175 |
| Leu Ile Ala | Lys Val Asp Gln | Leu Ser Gly Glu | Gln Glu Val Leu Arg |
| | 180 | 185 | 190 |
| Gly Glu Leu | Glu Ala Ala Lys | Gln Ala Lys Val | Lys Leu Glu Asn Arg |
| | 195 | 200 | 205 |
| Ile Lys Glu | Leu Glu Glu Glu | Leu Lys Arg Val | Lys Ser Glu Ala Ile |
| | 210 | 215 | 220 |
| Ile Ala Arg | Arg Glu Pro Lys | Glu Glu Ala Glu Asp | Val Ser Ser Tyr |
| | 225 | 230 | 235 |
| Leu Cys Thr | Glu Ser Asp Lys | Ile Pro Met Ala | Gln Arg Arg Arg Phe |
| | 245 | 250 | 255 |
| Thr Arg Val | Glu Met Ala Arg | Val Leu Met Glu | Arg Asn Gln Tyr Lys |
| | 260 | 265 | 270 |
| Glu Arg Leu | Met Glu Leu Gln | Glu Ala Val Arg | Trp Thr Glu Met Ile |
| | 275 | 280 | 285 |
| Arg Ala Ser | Arg Glu His Pro | Ser Val Gln Glu Lys | Lys Lys Ser Thr |
| | 290 | 295 | 300 |
| Ile Trp Gln | Phe Phe Ser Arg | Leu Phe Ser Ser | Ser Ser Ser Pro Pro |
| | 305 | 310 | 315 |
| Pro Ala Lys | Arg Pro Tyr Pro | Ser Val Asn Ile | His Tyr Lys Ser Pro |
| | 325 | 330 | 335 |
| Thr Thr Ala | Gly Phe Ser Gln | Arg Arg Asn His | Ala Met Cys Pro Ile |
| | 340 | 345 | 350 |
| Ser Ala Gly | Ser Arg Pro Leu | Glu Phe Phe Pro | Asp Asp Asp Cys Thr |
| | 355 | 360 | 365 |
| Ser Ser Ala | Arg Arg Glu Gln | Lys Arg Glu Gln | Tyr Arg Gln Val Arg |
| | 370 | 375 | 380 |
| Glu His Val | Arg Asn Asp Asp | Gly Arg Leu Gln | Ala Cys Gly Trp Ser |
| | 385 | 390 | 395 |
| Leu Pro Ala | Lys Tyr Lys Gln | Leu Ser Pro Asn | Gly Gly Gln Glu Asp |
| | 405 | 410 | 415 |
| Thr Arg Met | Lys Asn Val Pro | Val Pro Val Tyr | Cys Arg Pro Leu Val |
| | 420 | 425 | 430 |
| Glu Lys Asp | Pro Thr Met Lys | Leu Trp Cys Ala | Ala Gly Val Asn Leu |

435 440 445
 Ser Gly Trp Arg Pro Asn Glu Asp Asp Ala Gly Asn Gly Val Lys Pro
 450 455 460
 Ala Pro Gly Arg Asp Pro Leu Thr Cys Asp Arg Glu Gly Asp Gly Glu
 465 470 475 480
 Pro Lys Ser Ala His Ala Ser Pro Glu Lys Lys Lys Ala Lys Glu Leu
 485 490 495
 Pro Glu Met Asp Ala Thr Ser Ser Arg Val Trp Ile Leu Thr Ser Thr
 500 505 510
 Leu Thr Thr Ser Lys Val Val Ile Ile Asp Ala Asn Gln Pro Gly Thr
 515 520 525
 Val Val Asp Gln Phe Thr Val Cys Asn Ala His Val Leu Cys Ile Ser
 530 535 540
 Ser Ile Pro Ala Ala Ser Asp Ser Asp Tyr Pro Pro Gly Glu Met Phe
 545 550 555 560
 Leu Asp Ser Asp Val Asn Pro Glu Asp Pro Gly Ala Asp Gly Val Leu
 565 570 575
 Ala Gly Ile Thr Leu Val Gly Cys Ala Thr Arg Cys Asn Val Pro Arg
 580 585 590
 Ser Asn Cys Ser Ser Arg Gly Asp Thr Pro Val Leu Asp Lys Gly Gln
 595 600 605
 Gly Glu Val Ala Thr Ile Ala Asn Gly Lys Val Asn Pro Ser Gln Ser
 610 615 620
 Thr Glu Glu Ala Thr Glu Ala Thr Glu Val Pro Asp Pro Gly Pro Ser
 625 630 635 640
 Glu Pro Glu Thr Ala Thr Leu Arg Pro Gly Pro Leu Thr Glu His Val
 645 650 655
 Phe Thr Asp Pro Ala Pro Thr Pro Ser Ser Gly Pro Gln Pro Gly Ser
 660 665 670
 Glu Asn Gly Pro Glu Pro Asp Ser Ser Ser Thr Arg Pro Glu Pro Glu
 675 680 685
 Pro Ser Gly Asp Pro Thr Gly Ala Gly Ser Ser Ala Ala Pro Thr Met
 690 695 700
 Trp Leu Gly Ala Gln Asn Gly Trp Leu Tyr Val His Ser Ala Val Ala
 705 710 715 720
 Asn Trp Lys Lys Cys Leu His Ser Ile Lys Leu Lys Asp Ser Val Leu
 725 730 735
 Ser Leu Val His Val Lys Gly Arg Val Leu Val Ala Leu Ala Asp Gly
 740 745 750
 Thr Leu Ala Ile Phe His Arg Gly Glu Asp Gly Gln Trp Asp Leu Ser
 755 760 765
 Asn Tyr His Leu Met Asp Leu Gly His Pro His His Ser Ile Arg Cys
 770 775 780
 Met Ala Val Val Tyr Asp Arg Val Trp Cys Gly Tyr Lys Asn Lys Val
 785 790 795 800
 His Val Ile Gln Pro Lys Thr Met Gln Ile Glu Lys Ser Phe Asp Ala
 805 810 815
 His Pro Arg Arg Glu Ser Gln Val Arg Gln Leu Ala Trp Ile Gly Asp
 820 825 830
 Gly Val Trp Val Ser Ile Arg Leu Asp Ser Thr Leu Arg Leu Tyr His
 835 840 845
 Ala His Thr His Gln His Leu Gln Asp Val Asp Ile Glu Pro Tyr Val
 850 855 860
 Ser Lys Met Leu Gly Thr Gly Lys Leu Gly Phe Ser Phe Val Arg Ile

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865                870                875                880
Thr Ala Leu Leu Val Ala Gly Ser Arg Leu Trp Val Gly Thr Gly Asn
      885                890                895
Gly Val Val Ile Ser Ile Pro Leu Thr Glu Thr Val Val Leu His Arg
      900                905                910
Gly Gln Leu Leu Gly Leu Arg Ala Asn Lys Thr Ser Pro Thr Ser Gly
      915                920                925
Glu Gly Ala Arg Pro Gly Gly Ile Ile His Val Tyr Gly Asp Asp Ser
      930                935                940
Ser Asp Arg Ala Ala Ser Ser Phe Ile Pro Tyr Cys Ser Met Ala Gln
945                950                955                960
Ala Gln Leu Cys Phe His Gly His Arg Asp Ala Val Lys Phe Phe Val
      965                970                975
Ser Val Pro Gly Asn Val Leu Ala Thr Leu Asn Gly Ser Val Leu Asp
      980                985                990
Ser Pro Ala Glu Gly Pro Gly Pro Ala Ala Pro Ala Ser Glu Val Glu
      995                1000                1005
Gly Gln Lys Leu Arg Asn Val Leu Val Leu Ser Gly Gly Glu Gly Tyr
      1010                1015                1020
Ile Asp Phe Arg Ile Gly Asp Gly Glu Asp Asp Glu Thr Glu Glu Gly
1025                1030                1035                1040
Ala Gly Asp Met Ser Gln Val Lys Pro Val Leu Ser Lys Ala Glu Arg
      1045                1050                1055
Ser His Ile Ile Val Trp Gln Val Ser Tyr Thr Pro Glu
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<210> 4963

<211> 1575

<212> DNA

<213> Homo sapiens

<400> 4963

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120
aagtgccacc cgggtcactt cctgaactca cggggccctgg gcgtcatgga caagagcaat
180
gccatcccca aagccagctc ttctgagttc ctttcggcca aaacctgcag cttattttctg
240
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300
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360
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420
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480
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540
gacagcctgt gtctgatgga agggcgccgc ttccgggcgc agcccaccct gccctcgcc
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cacctcctgg ccatgcacat ccagcagctg gagacaggcg gcttcaccat gaccaacggg
660

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gccacaggt ggagcaagct caggaacatc gcaaaggttg tgagccaggt gcacgcgttc
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 780
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 840
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 960
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 1080
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 1200
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 1260
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 1320
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<210> 4964

<211> 304

<212> PRT

<213> Homo sapiens

<400> 4964

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 20 25 30
 Leu Leu Gln Gln Glu Leu Phe Gln Lys Cys His Pro Val His Phe Leu
 35 40 45
 Asn Ser Arg Ala Leu Gly Val Met Asp Lys Ser Thr Ala Ile Pro Lys
 50 55 60
 Ala Ser Ser Ser Glu Ser Leu Ser Ala Lys Thr Cys Ser Leu Phe Leu
 65 70 75 80
 Pro Asn Tyr Val Gln Asp Lys Tyr Leu Leu Gln Leu Leu Arg Asn Ala
 85 90 95
 Asp Asp Val Ser Thr Trp Val Ala Ala Glu Ile Val Thr Ser His Thr
 100 105 110
 Ser Lys Leu Gln Val Asn Leu Leu Ser Lys Phe Xaa Leu Ile Ala Lys

| | | |
|---|-----|-----|
| 115 | 120 | 125 |
| Ser Cys Tyr Glu Gln Arg Asn Phe Ala Thr Ala Met Gln Ile Leu Ser | | |
| 130 | 135 | 140 |
| Gly Leu Glu His Leu Ala Val Arg Gln Ser Pro Ala Trp Arg Ile Leu | | |
| 145 | 150 | 155 |
| Pro Ala Lys Ile Ala Glu Val Met Glu Glu Leu Lys Ala Val Glu Val | | |
| 165 | 170 | 175 |
| Phe Leu Lys Ser Asp Ser Leu Cys Leu Met Glu Gly Arg Arg Phe Arg | | |
| 180 | 185 | 190 |
| Ala Gln Pro Thr Leu Pro Ser Ala His Leu Leu Ala Met His Ile Gln | | |
| 195 | 200 | 205 |
| Gln Leu Glu Thr Gly Gly Phe Thr Met Thr Asn Gly Ala His Arg Trp | | |
| 210 | 215 | 220 |
| Ser Lys Leu Arg Asn Ile Ala Lys Val Val Ser Gln Val His Ala Phe | | |
| 225 | 230 | 235 |
| Gln Glu Asn Pro Tyr Thr Phe Ser Pro Asp Pro Lys Leu Gln Ser Tyr | | |
| 245 | 250 | 255 |
| Leu Lys Gln Arg Ile Ala Arg Phe Ser Gly Ala Asp Ile Ser Thr Leu | | |
| 260 | 265 | 270 |
| Ala Ala Asp Ser Arg Ala Asn Phe His Gln Val Ser Ser Glu Lys His | | |
| 275 | 280 | 285 |
| Ser Arg Lys Ile Gln Asp Lys Leu Arg Arg Met Lys Ala Thr Phe Gln | | |
| 290 | 295 | 300 |

<210> 4965

<211> 1474

<212> DNA

<213> Homo sapiens

<400> 4965

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300
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360
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420
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480
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540
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660
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720

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 1320
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 1380
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 1440
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 1474

<210> 4966

<211> 212

<212> PRT

<213> Homo sapiens

<400> 4966

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 Leu Ile Leu Lys Trp Glu Thr Leu Asn Asp Ala Gly Phe Thr Thr Ala
 35 40 45
 Asn Asn Ile Ala Asn Leu Lys Ile Ser Leu Leu Asn Lys Asp Lys Ile
 50 55 60
 Glu Leu Asp Ser Ser Ser Pro Ala Ser Lys Glu Asn Glu Glu Lys Val
 65 70 75 80
 Cys Leu Glu Tyr Asn Glu Glu Leu Glu Lys Leu Cys Glu Glu Leu Gln
 85 90 95
 Ala Thr Leu Asp Gly Leu Thr Lys Ile Gln Val Lys Met Glu Lys Leu
 100 105 110
 Ser Ser Thr Thr Lys Gly Ile Cys Glu Leu Glu Asn Tyr His Tyr Gly
 115 120 125
 Glu Glu Ser Lys Arg Pro Pro Leu Phe His Thr Trp Pro Thr Thr His
 130 135 140
 Phe Tyr Glu Val Ser His Lys Leu Leu Glu Met Tyr Arg Lys Glu Leu
 145 150 155 160
 Leu Leu Lys Arg Thr Val Ala Lys Glu Leu Ala His Thr Gly Asp Pro

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                165                170                175
Asp Leu Thr Leu Ser Tyr Leu Ser Met Trp Leu His Gln Pro Tyr Val
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Glu Ser Asp Ser Arg Leu His Leu Glu Ser Met Leu Leu Glu Thr Gly
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His Arg Ala Leu
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<210> 4967
 <211> 550
 <212> DNA
 <213> Homo sapiens

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<400> 4967
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120
cgcccttgacc tccaaaatag ctggngttac acgcgtgagc ccccatgccc agcttcccag
180
taagacattt attctgagga gttgggtcac atgagtaagg aggctgagaa gttccacaat
240
ctgaacattc aggagaaagc tgggtgatgta atttggctctg agtcccaatg cctgagaacc
300
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360
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420
tcaggctctc agaggcttgg atgatgtcca ttcacattgg cgagggctag gtacttttct
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<210> 4968
 <211> 51
 <212> PRT
 <213> Homo sapiens

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<400> 4968
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Tyr Ser Ser Leu Gln Pro Arg Thr Pro Gly Leu Lys Gln Ser Phe Arg
20          25          30
Leu Asp Leu Gln Asn Ser Trp Xaa Tyr Thr Arg Glu Pro Pro Cys Pro
35          40          45
Ala Ser Gln
50

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<210> 4969
 <211> 2911
 <212> DNA
 <213> Homo sapiens

<400> 4969
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120
gatgagaagg gtgcgggggg ccttcccttc ctaccagggg tctttggcta cgcagtgaat
180
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240
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660
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720
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780
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 1980
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 2040
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 2100
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 2160
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 2280
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 2520
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 2580
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 2911

<210> 4970

<211> 155

<212> PRT

<213> Homo sapiens

<400> 4970

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Val Ala Leu Asn Met Val Leu Pro Asp Glu Lys Gly Ala Gly Ala Leu
35           40           45
Pro Phe Leu Pro Gly Val Phe Gly Tyr Ala Val Asn Pro Gln Ala Ala
50           55           60
Pro Pro Ala Pro Pro Thr Pro Pro Pro Pro Thr Leu Pro Pro Pro Ile
65           70           75
Pro Pro Lys Gly Glu Gly Glu Arg Ala Gly Val Glu Arg Thr Gln Lys
85           90           95
Gly Asp Val Gly Xaa Asn Pro Gly Ala Gln Ser Pro Phe His Gln Met
100          105          110
Pro Pro Ser Leu Asn Pro Pro Pro Leu Pro Ala Pro Trp Pro Pro Cys
115          120          125
Pro Leu Gly Ala Pro Ser His Ser Cys Ala Gly Thr Trp Gly Pro Leu
130          135          140
Glu Leu Arg Gly Gln Ala Ala Leu Cys Glu Met
145          150          155

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<210> 4971

<211> 2939

<212> DNA

<213> Homo sapiens

<400> 4971

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180
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720
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780
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840

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<213> Homo sapiens

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| | 180 | 185 |
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<211> 792

<212> PRT

<213> Homo sapiens

<400> 4978

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 Cys Thr Tyr Asn Val Thr Val Tyr Thr Gly Tyr Gly Val Glu Leu Gln
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 Val Asp Gly Pro Thr Leu Thr Val Leu Ala Asn Gln Thr Leu Leu Val

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 Glu Gly Gln Val Ile Arg Ser Pro Thr Asn Thr Ile Ser Val Tyr Phe
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 Ala Phe Met Leu Ser Cys Asn Phe Pro Arg Arg Pro Asp Ser Gly Asp
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 Val Thr Val Met Asp Leu His Ser Gly Gly Val Ala His Phe His Cys
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 His Leu Gly Tyr Glu Leu Gln Gly Ala Lys Met Leu Thr Cys Ile Asn
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 Ala Ser Lys Pro His Trp Ser Ser Gln Glu Pro Ile Cys Ser Ala Pro
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 Cys Gly Gly Ala Val His Asn Ala Thr Ile Gly Arg Val Leu Ser Pro
 225 230 235 240
 Ser Tyr Pro Glu Asn Thr Asn Gly Ser Gln Phe Cys Ile Trp Thr Ile
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 Gly Leu Leu Ser Glu Gly Asn Thr Ile Arg Ile Glu Phe Thr Ser Asp
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 Val Arg Asp Pro Tyr Trp Asn Asp Thr Glu Pro Leu Cys Arg Ala Met
 385 390 395 400
 Cys Gly Gly Glu Leu Ser Ala Val Ala Gly Val Val Leu Ser Pro Asn
 405 410 415
 Trp Pro Glu Pro Tyr Val Glu Gly Glu Asp Cys Ile Trp Lys Ile His
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 Val Gly Glu Glu Lys Arg Ile Phe Leu Asp Ile Gln Phe Leu Asn Leu
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 Ser Ser Thr Pro Asp Leu Thr Ile Gln Phe His Ser Asp Pro Ala Gly
 485 490 495
 Leu Ile Phe Gly Lys Gly Gln Gly Phe Ile Met Asn Tyr Ile Glu Val
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 515 520 525
 Lys Thr Thr Ser His Thr Glu Leu Val Arg Gly Ala Arg Ile Thr Tyr
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 Gln Cys Asp Pro Gly Tyr Asp Ile Val Gly Ser Asp Thr Leu Thr Cys

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
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| | | | | 565 | | | | | 570 | | | | | 575 |
| Met | Tyr | Cys | Thr | Asp | Pro | Gly | Glu | Val | Asp | His | Ser | Thr | Arg | Leu Ile |
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| Pro | Gly | Phe | Val | Leu | Glu | Gly | Ser | Ser | Leu | Leu | Thr | Cys | Tyr | Ser Arg |
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| Met | Cys | Tyr | Glu | Gly | Phe | Glu | Leu | Met | Gly | Glu | Val | Thr | Ile | Arg Cys |
| | | | | 675 | | | 680 | | | | 685 | | | |
| Ile | Leu | Gly | Gln | Pro | Ser | His | Trp | Asn | Gly | Pro | Leu | Pro | Val | Cys Lys |
| | | | | | 690 | | 695 | | | | 700 | | | |
| Val | Asn | Gln | Asp | Ser | Phe | Glu | His | Ala | Leu | Glu | Ala | Glu | Ala | Ala Ala |
| 705 | | | | | 710 | | | | | 715 | | | | 720 |
| Glu | Thr | Ser | Leu | Glu | Gly | Gly | Asn | Met | Ala | Leu | Ala | Ile | Phe | Ile Pro |
| | | | | 725 | | | | | 730 | | | | | 735 |
| Val | Leu | Ile | Ile | Ser | Leu | Leu | Leu | Gly | Gly | Ala | Tyr | Ile | Tyr | Ile Thr |
| | | | | 740 | | | | 745 | | | | 750 | | |
| Arg | Cys | Arg | Tyr | Tyr | Ser | Asn | Leu | Arg | Leu | Pro | Leu | Met | Tyr | Ser His |
| | | | | 755 | | | 760 | | | | | 765 | | |
| Pro | Tyr | Ser | Gln | Ile | Thr | Val | Glu | Thr | Glu | Phe | Asp | Asn | Pro | Ile Tyr |
| | | | | 770 | | | 775 | | | | 780 | | | |
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| 785 | | | | | 790 | | | | | | | | | |

<210> 4979

<211> 1865

<212> DNA

<213> Homo sapiens

<400> 4979

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<211> 266

<212> PRT

<213> Homo sapiens

<400> 4980

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 His Lys Leu Glu Lys Glu Gln Leu Glu Tyr Ile Ile Val Glu Leu Gln
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 Asp Gln Leu Thr Val Leu Lys Asn Asn Asp Leu Arg Ser Arg Gln Glu
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 Val Asn Ala Val Ala Leu Asp Thr Leu Leu Tyr Arg Lys His Asn Lys
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 Gln Trp Lys Ser Tyr Gln Ser Leu Asp Gln Leu Ser Ala Glu Val Ser
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 Leu Ser Gln Thr Ser Leu Asp Pro Gly Gln Ser Gln Glu Gly Asp Gly
 195 200 205
 Lys Gln Asp Thr Leu Asn Val Met Ser Glu Gly Lys Glu Asp Thr Pro
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 Ser Leu Leu Gly Leu Cys Gly Ser Leu Thr Ser Val Ala Ser Tyr Lys
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<210> 4981

<211> 1902

<212> DNA

<213> Homo sapiens

<400> 4981

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 <213> Homo sapiens

<400> 4982
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 Gln Pro Pro Ser Pro Arg Phe Lys Arg Phe Ser Cys Leu Leu Ser
 35 40 45
 Ser Trp Asp Tyr Arg Cys Ser Pro Pro His Pro Ala Asn Phe Cys Ile
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 Phe Ser Arg Asp Gly Val Ser Pro Cys
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<210> 4983
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<211> 256

<212> PRT

<213> Homo sapiens

<400> 4984

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 35 40 45
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 50 55 60
 Gln Asp Ser Gly Thr Lys Ala Phe Cys Asp Val Ala Leu His Gly Pro
 65 70 75 80
 Phe Tyr Ser Ala Cys Gln Ala Val Phe Tyr Thr Phe Val Phe Arg His
 85 90 95
 Lys Gln Leu Leu Ser Gly Asn Leu Lys Glu Gly Leu Gln Tyr Leu Gln
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 Ser Leu Asn Phe Glu Arg Ile Val Met Ser Gln Leu Asn Pro Leu Lys
 115 120 125
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 130 135 140
 Tyr Gln Leu Val Phe Cys Tyr Thr Ile Ile Glu Arg Asn Asn Arg Gln
 145 150 155 160
 Met Leu Pro Val Ile Arg Ser Thr Ala Gly Gly Asp Ser Val Gln Thr
 165 170 175
 Cys Thr Asn Pro Leu Asp Thr Phe Phe Pro Phe Asp Pro Cys Val Leu
 180 185 190
 Lys Arg Ser Lys Lys Phe Ile Asp Pro Ile Tyr Gln Val Trp Glu Asp
 195 200 205
 Met Ser Ala Glu Glu Leu Gln Glu Phe Lys Lys Pro Met Lys Lys Asp
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<210> 4985
<211> 5695
<212> DNA
<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

<400> 4986

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| Met | Asn | Thr | Lys | Asp | Thr | Thr | Glu | Val | Ala | Glu | Asn | Ser | His | His | Leu |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Lys | Ile | Phe | Leu | Pro | Lys | Lys | Leu | Leu | Glu | Cys | Leu | Pro | Arg | Cys | Pro |
| | | | 50 | | | 55 | | | | 60 | | | | | |
| Leu | Leu | Pro | Pro | Glu | Arg | Leu | Arg | Trp | Asn | Thr | Asn | Glu | Glu | Ile | Ala |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Ser | Tyr | Leu | Ile | Thr | Phe | Glu | Lys | His | Asp | Glu | Trp | Leu | Ser | Cys | Ala |

| | | | | | | | | | | | | | | | | | |
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| Pro | Lys | Thr | Arg | Pro | Gln | Asn | Gly | Ser | Ile | Ile | Leu | Tyr | Asn | Arg | Lys | | |
| | | | | 100 | | | | | 105 | | | | | 110 | | | |
| Lys | Val | Lys | Tyr | Arg | Lys | Asp | Gly | Tyr | Leu | Trp | Lys | Lys | Arg | Lys | Asp | | |
| | | | | 115 | | | | | 120 | | | | | 125 | | | |
| Gly | Lys | Thr | Thr | Arg | Glu | Asp | His | Met | Lys | Leu | Lys | Val | Gln | Gly | Met | | |
| | | | | 130 | | | | | 135 | | | | | 140 | | | |
| Glu | Pro | Val | Ser | Trp | Gln | Cys | Leu | Tyr | Gly | Cys | Tyr | Val | His | Ser | Ser | | |
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| Ile | Val | Pro | Thr | Phe | His | Arg | Arg | Cys | Tyr | Trp | Leu | Leu | Gln | Asn | Pro | | |
| | | | | 165 | | | | | 170 | | | | | 175 | | | |
| Asp | Ile | Val | Leu | Val | His | Tyr | Leu | Asn | Val | Pro | Ala | Leu | Glu | Asp | Cys | | |
| | | | | 180 | | | | | 185 | | | | | 190 | | | |
| Gly | Lys | Gly | Cys | Ser | Pro | Ile | Phe | Cys | Ser | Ile | Ser | Ser | Asp | Arg | Arg | | |
| | | | | 195 | | | | | 200 | | | | | 205 | | | |
| Glu | Trp | Leu | Lys | Trp | Ser | Arg | Glu | Glu | Leu | Leu | Gly | Gln | Leu | Lys | Pro | | |
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| Met | Phe | His | Gly | Ile | Lys | Trp | Ser | Cys | Gly | Asn | Gly | Thr | Glu | Glu | Phe | | |
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| Ser | Val | Glu | His | Leu | Val | Gln | Gln | Ile | Leu | Asp | Thr | His | Pro | Thr | Lys | | |
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| Pro | Ala | Pro | Arg | Thr | His | Ala | Cys | Leu | Cys | Ser | Gly | Gly | Leu | Gly | Ser | | |
| | | | | 260 | | | | | 265 | | | | | 270 | | | |
| Gly | Ser | Leu | Thr | His | Lys | Cys | Ser | Ser | Thr | Lys | His | Arg | Ile | Ile | Ser | | |
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| Pro | Lys | Val | Glu | Pro | Arg | Ala | Leu | Thr | Leu | Thr | Ser | Ile | Pro | His | Pro | | |
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| His | Pro | Pro | Ala | His | Pro | Pro | Leu | Ile | Ala | Pro | Leu | Pro | Pro | Glu | Leu | | |
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| | | | | 325 | | | | | 330 | | | | | 335 | | | |
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| Gly | Gly | Ser | Ser | Arg | Gly | Gly | Thr | Ala | Ile | Leu | Leu | Leu | Thr | Gly | Leu | | |
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| Glu | Gln | Arg | Ala | Gly | Gly | Leu | Thr | Pro | Thr | Arg | His | Leu | Ala | Pro | Gln | | |
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| Phe | Leu | Asn | Ser | Pro | Gln | Arg | Gly | Gln | Thr | Tyr | Gly | Gly | Gly | Gln | Gly | | |
| | | | | 420 | | | | | 425 | | | | | 430 | | | |
| Val | Ser | Pro | Asp | Phe | Pro | Glu | Ala | Glu | Ala | Ala | His | Thr | Pro | Cys | Ser | | |
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| Ala | Leu | Glu | Pro | Ala | Ala | Ala | Leu | Glu | Pro | Gln | Ala | Ala | Ala | Arg | Gly | | |
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| Pro | Pro | Ile | | | | | | | | | | | | | | | |

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| Asp Leu Met Gly Glu Leu Ile Ser Asp Glu Ala Pro Ser Ile Pro Ala | | |
| 545 | 550 | 555 |
| Pro Thr Pro Gln Leu Ser Pro Ala Leu Ser Thr Ile Thr Asp Phe Ser | | |
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| Pro Glu Trp Ser Tyr Pro Glu Gly Gly Val Lys Val Leu Ile Thr Gly | | |
| 580 | 585 | 590 |
| Pro Trp Thr Glu Ala Ala Glu His Tyr Ser Cys Val Phe Asp His Ile | | |
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| Ala Val Pro Ala Ser Leu Val Gln Pro Gly Val Leu Arg Cys Tyr Cys | | |
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| Gly Pro Leu Ser Ala Ser Val Leu Phe Glu Tyr Arg Ala Arg Arg Phe | | |
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| Leu Ser Leu Pro Ser Thr Gln Leu Asp Trp Leu Ser Leu Asp Asp Asn | | |
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| Gln Phe Arg Met Ser Ile Leu Glu Arg Leu Glu Gln Met Glu Lys Arg | | |
| 675 | 680 | 685 |
| Met Ala Glu Ile Ala Ala Ala Gly Gln Val Pro Cys Gln Gly Pro Asp | | |
| 690 | 695 | 700 |
| Ala Pro Pro Val Gln Asp Glu Gly Gln Gly Pro Gly Phe Glu Ala Arg | | |
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| Val Val Val Leu Val Glu Ser Met Ile Pro Arg Ser Thr Trp Lys Gly | | |
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| Pro Glu Arg Leu Ala His Gly Ser Pro Phe Arg Gly Met Ser Leu Leu | | |
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| His Leu Ala Ala Ala Gln Gly Tyr Ala Arg Leu Ile Glu Thr Leu Ser | | |
| 755 | 760 | 765 |
| Gln Trp Arg Ser Val Glu Thr Gly Ser Leu Asp Leu Glu Gln Glu Val | | |
| 770 | 775 | 780 |
| Asp Pro Leu Asn Val Asp His Phe Ser Cys Thr Pro Leu Met Trp Ala | | |
| 785 | 790 | 795 |
| Cys Ala Leu Gly His Leu Glu Ala Ala Val Leu Leu Phe Arg Trp Asn | | |
| 805 | 810 | 815 |
| Arg Gln Ala Leu Ser Ile Pro Asp Ser Leu Gly Arg Leu Pro Leu Ser | | |
| 820 | 825 | 830 |
| Val Ala His Ser Arg Gly His Val Arg Leu Ala Arg Cys Leu Glu Glu | | |
| 835 | 840 | 845 |
| Leu Gln Arg Gln Glu Pro Ser Val Glu Pro Pro Phe Ala Leu Ser Pro | | |
| 850 | 855 | 860 |
| Pro Ser Ser Ser Pro Asp Thr Gly Leu Ser Ser Val Ser Ser Pro Ser | | |
| 865 | 870 | 875 |
| Glu Leu Ser Asp Gly Thr Phe Ser Val Thr Ser Ala Tyr Ser Ser Ala | | |
| 885 | 890 | 895 |
| Pro Asp Gly Ser Pro Pro Pro Ala Pro Leu Pro Ala Ser Glu Met Thr | | |
| 900 | 905 | 910 |
| Met Glu Asp Met Ala Pro Gly Gln Leu Ser Ser Gly Val Pro Glu Ala | | |
| 915 | 920 | 925 |
| Pro Leu Leu Leu Met Asp Tyr Glu Ala Thr Asn Ser Lys Gly Pro Leu | | |
| 930 | 935 | 940 |
| Ser Ser Leu Pro Ala Leu Pro Pro Ala Ser Asp Asp Gly Ala Ala Pro | | |

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<213> Homo sapiens

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| | | | 20 | | | | | 25 | | | | | 30 | | |
| Phe | Pro | Leu | Cys | Phe | Leu | Gly | Thr | Ala | Phe | Pro | Gln | Gly | Glu | Gln | Arg |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Pro | Leu | Glu | Ala | Lys | Gly | Leu | Ala | Thr | Gln | Gly | Ala | Ser | Leu | Pro | Leu |
| | | 50 | | | 55 | | | | | | 60 | | | | |
| Leu | Pro | Thr | Val | Thr | Cys | Val | Ser | Ile | Lys | Ser | Trp | Lys | Met | Glu | Cys |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Pro | His | Gln | Gly | Asp | Gly | Val | Thr | Thr | Glu | Ala | Gly | Ser | Glu | Leu | Pro |
| | | | 85 | | | | | 90 | | | | | | 95 | |
| Gln | Leu | Leu | Gln | Ala | Pro | Trp | Pro | Arg | | | | | | | |
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<400> 4990
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 Trp Asp Ser Glu Leu Lys Ala Asp Gln Gly Asn Pro Tyr Asp Ala Asp
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 Ala Pro Gln Gly Asp Met Ile Tyr Asp Pro Ser Trp His His Pro Pro
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 Val Met Asp Gly Val Ile Ser Asp His Glu Cys Gln Glu Leu Gln Arg
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 Ser Pro His Thr Pro Asn Glu Lys Phe Tyr Gly Val Thr Val Phe Lys
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 Leu Tyr Tyr Asn Val Thr Glu Lys Val Arg Arg Ile Met Glu Ser Tyr
 115 120 125
 Phe Arg Leu Asp Thr Pro Leu Tyr Phe Ser Tyr Ser His Leu Val Cys
 130 135 140
 Arg Thr Ala Ile Glu Glu Val Gln Ala Glu Arg Lys Asp Asp Ser His
 145 150 155 160
 Pro Val His Val Asp Asn Cys Ile Leu Asn Ala Glu Thr Leu Val Cys
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 Val Lys Glu Pro Pro Ala Tyr Thr Phe Arg Asp Tyr Ser Ala Ile Leu
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<210> 4998

<211> 464

<212> PRT

<213> Homo sapiens

<400> 4998

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 35 40 45
 Cys Pro Glu Glu Gln Pro His Val Gly Asn Tyr Arg Leu Leu Arg Thr
 50 55 60
 Ile Gly Lys Gly Asn Phe Ala Lys Val Lys Leu Ala Arg His Ile Leu
 65 70 75 80
 Thr Gly Arg Glu Val Ala Ile Lys Ile Ile Asp Lys Thr Gln Leu Asn
 85 90 95
 Pro Ser Ser Leu Gln Lys Leu Phe Arg Glu Val Arg Ile Met Lys Gly
 100 105 110
 Leu Asn His Pro Asn Ile Val Lys Leu Phe Glu Val Ile Glu Thr Glu
 115 120 125
 Lys Thr Leu Tyr Leu Val Met Glu Tyr Ala Ser Ala Gly Glu Pro Pro
 130 135 140
 Thr Leu Ser Ala Leu Pro Leu Cys His Leu Pro Leu Pro Leu His Leu
 145 150 155 160
 Thr Leu Thr Pro Leu Gly Leu Cys Pro Ala Gly Glu Val Phe Asp Tyr
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 Leu Val Ser His Gly Arg Met Lys Glu Lys Glu Ala Arg Ala Lys Phe
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 Arg Gln Ile Val Ser Ala Val His Tyr Cys His Gln Lys Asn Ile Val
 195 200 205
 His Arg Asp Leu Lys Ala Glu Asn Leu Leu Leu Asp Ala Glu Ala Asn
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 Lys Leu Asp Thr Phe Cys Gly Ser Pro Pro Tyr Ala Ala Pro Glu Leu
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 Phe Gln Gly Lys Lys Tyr Asp Gly Pro Glu Val Asp Ile Trp Ser Leu
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 Val Pro Phe Tyr Met Ser Thr Asp Cys Glu Ser Ile Leu Arg Arg Phe
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 Leu Val Leu Asn Pro Ala Lys Arg Cys Thr Leu Glu Gln Ile Met Lys
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 Asp Lys Trp Ile Asn Ile Gly Tyr Glu Gly Glu Leu Lys Pro Tyr

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<211> 307

<212> PRT

<213> Homo sapiens

<400> 5000

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 Lys Ile Pro Glu Asp Ile Leu Lys Glu Val Thr Thr Pro Lys Glu Val
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 Pro Ala Glu Ser Val Thr Val Trp Ile Asp Pro Leu Asp Ala Thr Gln
 115 120 125
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 Glu Tyr Thr Ala Trp Ala Met Val Asp Gly Gly Ser Asn Val Lys Ala
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| Thr Thr Ile Ile Pro Ala Gly Gly Ala Gly Tyr Lys Val Leu Ala Leu | | | | | |
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| Leu Asp Val Pro Asp Lys Ser Gln Glu Lys Ala Asp Leu Tyr Ile His | | | | | |
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| Val Thr Tyr Ile Lys Lys Trp Asp Ile Cys Ala Gly Asn Ala Ile Leu | | | | | |
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| Lys Ala Leu Gly Gly His Met Thr Thr Leu Ser Gly Glu Glu Ile Ser | | | | | |
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| Tyr Thr Gly Ser Asp Gly Ile Glu Gly Gly Leu Leu Ala Ser Ile Arg | | | | | |
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| Met Asn His Gln Ala Leu Val Arg Lys Leu Pro Asp Leu Glu Lys Thr | | | | | |
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<211> 3427

<212> DNA

<213> Homo sapiens

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<211> 335

<212> PRT

<213> Homo sapiens

<400> 5002

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| Ile | Val | Leu | Ile | Val | Glu | Gly | Thr | Glu | Phe | Pro | Cys | His | Lys | Met | Val |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Leu | Ala | Thr | Cys | Ser | Ser | Tyr | Phe | Arg | Ala | Met | Phe | Met | Ser | Gly | Leu |
| | | 50 | | | | 55 | | | | | 60 | | | | |
| Ser | Glu | Ser | Lys | Gln | Thr | His | Val | His | Leu | Arg | Asn | Val | Asp | Ala | Ala |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Thr | Leu | Gln | Ile | Ile | Ile | Thr | Tyr | Ala | Tyr | Thr | Gly | Asn | Leu | Ala | Met |
| | | | 85 | | | | | 90 | | | | | 95 | | |
| Asn | Asp | Ser | Thr | Val | Glu | Gln | Leu | Tyr | Glu | Thr | Ala | Cys | Phe | Leu | Gln |
| | | | 100 | | | | 105 | | | | | 110 | | | |
| Val | Glu | Asp | Val | Leu | Gln | Arg | Cys | Arg | Glu | Tyr | Leu | Ile | Lys | Lys | Ile |

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| Arg | Ser | Gln | Tyr | Leu | Ser | Ser | Val | Leu | Ser | Gln | Ile | Arg | Ile | Asp | Ala |
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 <213> Homo sapiens

<400> 5004

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<213> Homo sapiens

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| Arg | Gly | Ser | Gly | His | Val | Thr | Val | Phe | Gly | Leu | Ser | Asn | Lys | Phe |
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| Asn | Met | Met | Glu | Tyr | Val | Ile | Leu | Ile | Glu | Phe | Leu | Pro | Lys | Thr |
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<211> 487

<212> PRT

<213> Homo sapiens

<400> 5008

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| | | 35 | | | | | 40 | | | | 45 | | | | |
| Met | Cys | Tyr | Ile | His | Ile | Ala | Ala | Leu | Ile | Ala | Glu | Tyr | Leu | Lys | Arg |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Lys | Gly | Met | Phe | Ser | Met | Gly | Trp | Pro | Ala | Val | Leu | Ser | Ile | Thr | Pro |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Asn | Ile | Lys | Glu | Glu | Gly | Ala | Met | Lys | Glu | Asp | Ser | Gly | Met | Gln | Asp |
| | | | 85 | | | | | | 90 | | | | 95 | | |
| Thr | Pro | Tyr | Asn | Glu | Asn | Ile | Leu | Val | Glu | Gln | Leu | Tyr | Met | Cys | Val |
| | | | 100 | | | | 105 | | | | | | 110 | | |
| Glu | Phe | Leu | Trp | Lys | Ser | Glu | Arg | Tyr | Glu | Xaa | Ser | Leu | Leu | Met | Ser |
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| Asn | Leu | Pro | Gly | Arg | Val | His | Gln | Phe | Phe | Ile | Ser | Pro | Leu | Phe | Ile |
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Pro Glu Asp Lys Pro Ala Pro Lys Asn Glu Asp Glu Met Met Val Ala
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Ile Phe Glu Tyr Ile Asp Arg Leu Phe Ser Ile Val Arg Pro Arg Arg
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Leu Leu Tyr Met Ala Ile Asp Gly Val Ala Pro Arg Val Lys Met Asn
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| | | | | | | | | | | | | | | | | | | | | | |
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| Lys | Phe | Ser | Leu | Asp | Glu | Glu | Ala | Ile | Leu | Pro | Asp | Gln | Ile | Val | Cys | | | | | | |
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| | | | | | |
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<211> 675

<212> PRT

<213> Homo sapiens

<400> 5014

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Asp Pro Glu Cys Glu Ile Glu Arg Pro Glu Arg Leu Thr Ala Ala Leu
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Asp Arg Leu Arg Gln Arg Gly Leu Glu Gln Arg Cys Leu Arg Leu Ser
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Ala Arg Glu Ala Ser Glu Glu Leu Gly Leu Val His Ser Pro Glu
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Tyr Val Ser Leu Val Arg Glu Thr Gln Val Leu Gly Lys Glu Glu Leu
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Gln Ala Leu Ser Gly Gln Phe Asp Ala Ile Tyr Phe His Pro Ser Thr
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Phe His Cys Ala Arg Leu Ala Ala Gly Ala Gly Leu Gln Leu Val Asp
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Ala Val Leu Thr Gly Ala Val Gln Asn Gly Leu Ala Leu Val Arg Pro
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Pro Gly His His Gly Gln Arg Ala Ala Ala Asn Gly Phe Cys Val Phe
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Asn Asn Val Ala Ile Ala Ala Ala His Ala Lys Gln Lys His Gly Leu
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His Arg Ile Leu Val Val Asp Trp Asp Val His His Gly Gln Gly Ile
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Gln Tyr Leu Phe Glu Asp Asp Pro Ser Val Leu Tyr Phe Ser Trp His
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Arg Tyr Glu His Gly Arg Phe Trp Pro Phe Leu Arg Glu Ser Asp Ala
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Trp Asn Gln Val Gly Met Gly Asn Ala Asp Tyr Val Ala Ala Phe Leu
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 His Glu Ser Leu Ala Arg Glu Glu Ala Leu Thr Ala Leu Gly Lys Leu
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<211> 1360

<212> DNA

<213> Homo sapiens

<400> 5015

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| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Arg | Pro | Ser | Pro | Gln | Val | Pro | Pro | Leu | Ser | Ala | Gly | Pro | Ala | Ala |
| | | 20 | | | | | 25 | | | | | 30 | | | |
| Ala | Ala | Ile | Phe | Val | Gly | Gly | Ser | Gln | Ala | Trp | Leu | Glu | Met | Pro | Lys |
| | | 35 | | | | 40 | | | | | 45 | | | | |
| Ser | Cys | Ala | Ala | Arg | Gln | Cys | Cys | Asn | Arg | Tyr | Ser | Ser | Arg | Arg | Lys |
| | 50 | | | | 55 | | | | | 60 | | | | | |
| Gln | Leu | Thr | Phe | His | Arg | Phe | Pro | Phe | Ser | Arg | Pro | Glu | Leu | Leu | Lys |
| | 65 | | | 70 | | | | | 75 | | | | | 80 | |
| Glu | Trp | Val | Leu | Asn | Ile | Gly | Arg | Gly | Asn | Phe | Lys | Pro | Lys | Gln | His |
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[illegible]

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<211> 785

<212> DNA

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| 300 | | | | | |
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| 360 | | | | | |
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| 540 | | | | | |
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| caccctgccg | cacacctgcc | cctaactcact | gcagtgtcca | gccagatgtt | gaacagattg |
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